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LANGUAGE AND WORLD VIEW IN THE NORTHERN KIMBERLEY, WESTERN AUSTRALIA*

A. CAPELL

INTRODUCTION

ETHNOLINGUISTICS deals with the relationship between language and culture. There has been much discussion as to the nature and even the existence of such relationships, but it seems at least to be accepted that there is a reality corresponding to the idea.[1] Some particular essays in this field, such as that by Dorothy D. Lee: *Linguistic Reflection of Wintu Thought*[2] are of special interest and promise. In reading Lee's brief essay I was struck by the resemblance of many of the basic theses of Wintu philosophy to those of the Northern Kimberley Division of Western Australia, and it seemed appropriate to the present occasion to work out in some detail the Northern Kimberley world outlook in terms of its expression in the languages of the area.

The Northern Kimberley languages belong to one sub-group of the Australian languages. They are characterized by the grouping of nouns into some five or six classes, marked by an alliterative concord throughout the sentence in a manner reminiscent of the Bantu languages of Africa.[3] The noun itself may not carry a distinguishing prefix but all its adjuncts and the verbal subject and object do. The verbal system is complicated by the prefixing of both subject and object, and the suffixing of an indirect object, but it is chiefly characterized by the prevalence of

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1 "The Relation of Language to Culture": see paper by H. Hoijer in *Anthropology Today* (Chicago, 1953), pp. 554-573 with bibliography.

2 See International Journal of American Linguistics, vol. 10, 181-187, 1944.

3 A. Capell, *Bantu and North Australian: a Study in Agglutination* (African Studies, vol. 10, no. 2, 1951).

a two-element expression consisting of an invariable root and a variable auxiliary by means of which it is conjugated. These will be illustrated at a later point in this paper. Most of the illustrations will be taken from one language, Wungarinyin, spoken by the most widespread tribe of the region, the Ngarinyin. The word *wu'ŋarinyin* itself provides an example of a class prefix *wu-*, the full phrase being *wuʃan wu'ŋarinyin* 'the Ngarinyin language.'

1. The Ngarinyin World View[4]

Like the Wintu, the Ngarinyin have no creation story in the sense of the production of the world from nothing. It was always there, but consisted simply of a salt-water-covered mass, in which dwelt the Rainbow Serpent, Ungud. Petri (p. 62) gives a myth in the following terms: "In the beginning there was only the great salt water. Out of the Saltwater came Ungud in the form of the Rainbow Serpent. He stretched himself straight upright, took his boomerang and threw it out over the world sea. The boomerang described a great arch and several times touched on the water; the foam frothed up high and smooth, and flat land appeared. Ungud walked across the land and laid many eggs. New Unguds came out of his eggs. They were the Wandjinas, and they went in all directions."

As he himself at a later stage points out, however, it is doubtful whether this is really the original form of the story, for the boomerang is a comparatively late introduction to this part of Australia, and there is evidence to suggest that Ungud is also a late and borrowed conception.[5] Whatever the earlier form of the story, it belongs to a period known as *la:lan*, a term which is usually translated as "the eternal dream time"—the primeval period which still continues in the unseen spiritual realm, and into which modern man may enter through the pathway of the dream. Lommel lays stress on the function of another character who plays a part in the creation story. This is Walanganda *(wala'ŋanda)*, living in or identified with the Milky Way. He also is an eternal being, who, as the Ngarinyin say, "made everything." "At first," writes Lommel, "there was nothing on the earth. Only Ungud lived in the interior of the earth. Walanganda threw down fresh water from the sky on to the earth. But Ungud 'made the water deep'. Ungud also caused the rain to come forth and so life could begin on the earth." This seems most likely to be the early form of the story—though probably Ungud was not originally in it at all, and everything depended on Walanganda—but in any

4 For a general account see A. Capell, *Mythology in the Northern Kimberley, N.W. Australia* (Oceania, vol. 9, pp. 382-404, 1939); H. Petri, *Sterbende Welt in Nordwestaustralien* (Brunswick, 1955), especially pp. 97 ff.; A. and K. Lommel, *Die Kunst des Fünften Erdteils: Australien* (Munich, 1959), pp. 17-20.

5 See Capell, *op. cit.*, p. 335.

case the picture given is not just one of acts of creation so much as calling individual things and beings out of a primeval condition into visible being. They were all there, as it were in embryo, but needed to be individualized. "Ungud," writes Lommel again, "is the primal creative power from which all life springs, and into which it returns after death, in order to be born again."

How, then, do existing individual objects and persons come into being? Walanganda dreams them into being—first in the form of red, yellow, and black paintings on rock surfaces. These rock paintings are the characteristic features of the Northern Kimberley country and much has been written about them. "The paintings on the rocks are related as 'fathers and brothers' to the beings that they represent," says Lommel. The first of these beings were the Wandjinas, who are the chief figures of the rock paintings. They are the primal mythical heroes, who came forth from Ungud—whether at Walanganda's behest or not does not matter; they went about the country creating the present features of the landscape, objects, and beings; finally they lay down on rock surfaces, died, and as the Wungarinyin texts always put it, *biriwoḍen* 'they became paintings', while their eternal spirits returned to the Ungud water.

Much more might be said on this subject, but the above is sufficient to lead into the discussion of the peculiar features of the Northern Kimberley languages. This discussion will show a remarkably close parallel between the Northern Kimberley outlook and the grammatical structure of the language. One of the outstanding features of the languages is the classification of nouns. Is it possible that there is a connection between this world outlook—the origin of the many from the One—and the subgroupings of all the nouns in the language?

It is noteworthy that in Arnhem Land, mythology concentrates on the exploits of a number of individual beings who apparently do not ultimately resolve themselves into any primal substance, and in these languages there is no such classification of nouns. It is true also, of course, that Bantu philosophy does not rest on the same premises as the Northern Kimberley, and yet there is a similar and indeed much more elaborate system of noun classification. It is true also that much more elaborate noun classification is found in the languages of Southern Bouvainville, in the Solomon Islands, without, apparently, a similar philosophy resulting. In the Solomon Islands the bulk of the classification is purely formal, and hinges ultimately on methods of counting, so that it does not imply any philosophy at all. In northeastern Arnhem Land, where the Djanggawul myth controls the mythology, R. M. Berndt is able to say that "in the beginning there were land and sky, animals and birds, foliage and trees. There was sea, too, in the waters of which were fish and other creatures; and upon the land were beings of totemic

origin. All these things were there, as they had always been; but man, as we know him today, was not among them."[6] Along with this relatively atomistic picture of the original universe goes a complete lack of any system of noun classification—not even one by "natural" gender. Hence a brief study of Ngarinyin grammar is called for at this point.

2. The Structure of the Ngarinyin Language

Like all Australian languages, Ngarinyin recognizes the subject-predicate relationship; the difference between nominal and verbal forms follows on the morphological level. It is therefore convenient to consider the languages under these two aspects—the noun and the verb, together with the idea of possession, which belongs to both camps.

(a) *The Noun*

As already stated, Ngarinyin, like all the Northern Kimberley languages, divides its nouns into a number of classes, which between them cover the universe of existence. The noun itself may not carry a prefix to mark its class. In the north-eastern dialects it often does[7] but not so frequently in those of the west. The class is determined by the whole domain of the concord, which is called into play when a given noun is the subject or object of a sentence. The examples on the following page will show the concord system in Ngarinyin.

Apart from the concord system involved in these examples it is important to notice that the only nouns in the language that have plurals are those denoting persons.[9] Class III forms a plural on the basis of Class II. That is to say, that not only is there a system of noun-classes dependent on overt concords, but there is also a covert division into animate and inanimate classes, and within the animate class a division into rational (or human) and irrational (or animal), and still further within the rational class a division into masculine and feminine. This last division is missing from the languages of the Wunambal, Drysdale, and Forrest River areas, which, like the Bantu languages, class male and female together as far as concords are concerned. In the Worora, Ngarinyin, and Unggumi languages, however, this distinction is made. Working from the African side, Mein-

6 R. M. Berndt, *Djanggawul* (London, 1952), p. 24.

7 See A. Capell, *Languages of the Northern Kimberley Division, W.A.* (Mankind, vol. 2, no. 6, 1940); *The Classification of Languages in North and North-west Australia* (Oceania, vol. 10, nos. 3 and 4, 1940); *Notes on the Wunambal Language* (Oceania, vol. 11, no. 3, 1941).

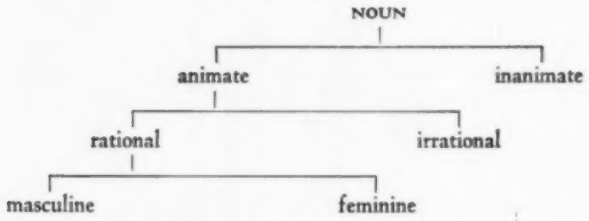
9 This is not limited to these languages. "If and only if there is an opposition of animate and inanimate gender in a given language, nouns of inanimate gender may have no plural forms" (Ivanov in *Proceedings VIIIth Congress of Linguists*, Oslo, 1956, p. 26, who illustrates not only from Athabascan languages in America but also from Indo-European).

Class I:	andja	ařu	aner	djiri	alŋun	ŋe:n	mařa aŋo:niŋari?	e:rano	djiri?
	what	man	big	that	his-name	I	saw-him-whom?	He-is-where	he?
Class II:	andja	buřuřu	biriner	biri	biralŋun	ŋe:n	mařa buŋo:niŋari?	biriranо	biri?
	what	men	big	those	their-names	I	saw-them-whom?	They-are-where	they?
Class III:	andja	woŋaji	njaner	njiri	njalŋun	ŋe:n	mařa njuŋo:niŋari?	nje:rano	njiri?
	what	woman	big	that	her-name	I	saw-her-whom?	she-is-where	she?
Class IV:	andja	ŋurul	wuner	giri	walŋun	ŋe:n	mařa wuŋo:niŋari?	we:rano	giri?
	what	tree	big	that	its-name	I	saw-it-which?	it-is-where	it?
Class V:	andja	malma	maner	miri	malŋun	ŋe:n	mařa muŋo:niŋari?	me:rano	miri?[8]
	what	sacred-place	big	that	its-name	I	saw-it-which?	it-is-where	it?

8 In earlier treatments, Class II was linked with Class I as its plural. It seems better to follow the practice of Bantuists and list the personal plural as a separate Class.

hof[10] stated that class-systems and gender systems never coexist. The Western and Southern Kimberley examples, however, show that this generalization is incorrect, and that Meinhof became a victim to lack of acquaintance with other types of class-language than the Bantu.

In the western part of the Northern Kimberley area, therefore, the noun system is shown in the following diagram:



In the next place, what nouns belong to each class? It is here that the parallelism, if any, between thought-world and language should appear. The view given above of the Ngarinyin universe is that of a whole, originally undifferentiated, whose individual members have been called into being from this original whole. The entire system of noun-classification represents the undifferentiated ocean of "nomination," if such a term may be permitted; each noun then fits into one part of the scheme. Is there any discoverable method in the classification? It is recognized that such a scheme is very difficult to make out even in the Bantu languages, where there is a much greater number of classes. In such a language as the Maung of Goulburn Islands, Arnhem Land, even with only two noun classes more than Ngarinyin, such a plan is clearly visible. In Maung, Class I contains predominantly the names of male beings, both rational and irrational, and some objects used by male beings; Class II is the class of female beings, and many birds, irrespective of sex; Class III contains the plurals of rational beings—Class II nouns join it to form a plural; Class IV contains the names of the ground and objects connected with it, and in addition it also frequently expresses a general neuter or abstract idea, such as "evil," "trial"; Class V chiefly refers to trees and wooden objects; Class VI to food plants and vegetable foods, as well as many ceremonial terms (and ceremonies have much to do with increase of natural food species), also winds and clouds. Parts of the body are the only group of nouns that cannot be neatly classified. They are spread over all the classes except II and III.

10 C. Meinhof, *Die Afrikanischen Klassensprachen in ihrer Bedeutung für die Geschichte der Sprache* (*Scientia*, 1931).

In the Kimberley languages there are fewer noun classes than in Maung, Nunggubuyu, or Andilyaugwa. In the Southern Wunambal there are only four classes left, including the personal plural. This has naturally involved adjustment and reclassification of nouns, but it is still correct to say that the basic structure of the eastern languages has been retained. Nouns belonging to classes no longer retained have been transferred to others. This has led to confusion especially in regard to parts of the body, and it has meant that Class I has had a large influx of non-rational and even non-living nouns assigned to it. The complete disappearance of anything corresponding to Maung Class VI is noticeable, and the appearance in the north of the Kimberleys in Gwini and the Drysdale region of a Class VI whose chief members seem to be manufactured articles such as canoes, or honey (which is "manufactured" by bees). In the language which has only four classes, Class I has taken over animal names and manufactured goods. In Worora and Unggumi it is often possible to tell by the ending the class to which a noun belongs: there may be no prefix, but there is often a suffix which may reproduce the phonemic form of the prefix that might be expected. Thus:

	Ngarinyin	*Worora*	*Unggumi*
bone	a:nɔr	inari	ja-nawɔr-gɛ
emu	djābara	djābari-nja	djābari-nja
smoke	bindjān	bidjugu	bindjā-ŋga

In 'bone' the prefix *a-* (Ng.), *ja-* (Ung.) represents 'his' and serves to link the noun with a male being, even though the noun itself is classed as Cl. IV in Unggumi. This crossing of two concepts—the noun itself and the possessor of it—is particularly noticeable in Maung, where, for instance:

i-ma:wur	'man's arm'
nig-ba:wur	'woman's arm'
u-ma:wur	'arm of river'
ma-ma:wur	'limb of tree'
a-ba:wur	'tendril of vine'

the remaining concords in the utterance being based on the prefixes of the class in which the root *-ma:wur* is functioning for the time being. Throughout the whole process there is a clear idea of "belonging" to a whole, divided into subgroups for purposes of special reference, and this fits well into the concept of an undifferentiated "nounhood" subdivided into classes as the people and objects are individualized. All go back ultimately to one "Ungud." From this basic differentiation the entire concord system flows. Qualities of experience are linked to their objects

by the concord system and by virtue of this linkage the prefixes—in some instances also suffixes—of adjectives, pronouns, and verbs are brought into action. Thus in the Drysdale area the sentence *gambul naŋgala nane:wur māa naŋana* 'string that big I saw', i.e. "I saw that big piece of string" is formed into a unified expression by means of *n-*, even though that *n-* does not appear on the noun itself. Zero prefixes in nouns may still be represented by a prefix that controls the entire domain to which the noun refers. So complete is this control in the north of the Kimberley area that if a noun carries a possessive prefix, that prefix exercises a domain over the entire expression, e.g. Gwini *ŋ-alŋi ŋ-injiŋga ŋ-alali garidj ŋun-biriŋmani* 'that new name *(-alŋi)* of mine *(ŋ-)* they called me'.

(b) *Possession*

Possession in these languages is worth consideration. I have already discussed it in a separate paper[11] and the discussion can only be summarized here. Three types of possessive expression are found: (1) a separate possessive is employed with most nouns, and this root is subject to concord: Wor. *wianu ŋaianaŋga* 'fire mine', 'my fire'; in Class V: *maiarum ŋaianaŋga-m* 'hut mine'. Double concord may be called for in Wor.: *maiarum malerdum m-anaŋga-m* 'the roof of the hut', but this does not happen in Ngar., where suffixes are not found; (2) parts of the body are constructed with prefixes: Ngar. *ŋi-ambul* 'my eye', Wor. *nj-ambelaru* 'her foot'; (3) kinship terms are constructed with suffixes: *ŋara-nu* 'your mother', *mad-naŋga* 'her husband'. The point of interest is that the prefix series is identical with the suffixes of person for verbal subjects, while the suffix series (except for the first person singular) is identical with the suffixes indicating the indirect object of the verb. The principle involved is that of ownership viewed from the owner's standpoint: objects separable from him require an independent possessive; objects not naturally separable (separable physically perhaps but still belonging) are indicated by a prefix if they are permanently part of him, like the parts of the body and he is in full control of them, and by suffix if they are not completely under his control though permanently his. Obviously relatives fall into the latter class: *ŋara-naŋga* 'his mother' is parallel to *māa nju-ŋgo-ni-naŋga* 'I saw her for him'. I do not own relatives in the same way as I do parts of the body; they are permanent but less directly owned and certainly less directly controlled.

Number is another idea to which attention is paid. It is not part of the prefixial or concord system, but in the Kimberleys it is indicated by a suffix (or zero in the case of singular and plural nouns) which exercises domain throughout the utter-

11 A. Capell, *The Concept of Ownership in the Languages of Australia and the Pacific* (Southwestern Journal of Anthropology, vol. 5, pp. 169-189, 1949), especially pp. 170-172.

ance. In Ngar. singular, dual, trial, and plural are marked, and this numerical stress is not limited to rational beings: *'woŋaji* 'woman', plural same; dual *woŋa'jari*, trial *woŋa'jana*.

When inanimate nouns are referred to, numerals are preferred to suffixes: *njá'ŋämbul má'djeriŋa* 'your two eyes', 'both your eyes'; but an eastern dialect of Ngarinyin does present *njiŋa-nuŋgu-riwa* 'your hands two' with suffixial form (*-riwa*, western *-ri* after vowels).

(c) *The Verb*

In the verbal system of the Kimberley languages there is visible a patterning of an undifferentiated ocean of "action" similar to that which appears to have taken place in regard to "nomination." In fact, the verbal system of the Kimberley languages is of great interest in relation to the world view as already outlined. The close resemblance between the type of Kimberley mythology and that of the Wintu in North America has already been pointed out. In the verbal system a different type of stress is found in each area as might be expected, but it seems possible to recognize common thought elements, in keeping with the common world views. In the Kimberley langauges there are comparatively few simple verbs, i.e. verbs consisting of a stem to which prefixes and suffixes are added directly, e.g. Ngar. *aŋu-wilja-n* 'I spear him', *aŋu-wilja-ni* 'I speared him'. The vast majority of verbs consist of two elements, an invariable root and a variable auxiliary, e.g. Ngar. *mā̈a a-ŋ-o:-n* 'I see him', *mā̈a a-ŋ-o:* 'I shall see him'. The auxiliaries used are seven in number and will be briefly discussed. No attention will be paid in this paper to the phonemic forms of the prefixes and suffixes, except to point out in passing that prefixes indicate actor and goal, and to some degree tense and aspect, while suffixes indicate indirect goals, directing movement and to some extent tense and aspect also.

The auxiliary seen in Ngar. *a-ŋ-o:-n* is by far the commonest. It is Gwini *bu-ŋ-o:-n*, and literally it is 'him-I-hit'—the final *-n* is present tense marker. In Worora it is *ga-ŋ-o:-na*, and in this language it retains it literal sense. It is used to tell of an act of violence carried out on another—in the other languages, however, the root is used *only as an auxiliary*, and indicates that the act indicated in the invariable root is exercised towards a goal. Ngar. *mā̈a a-ŋ-o:-n* is literally 'I act on him with light' or 'with sight' *(mā̈a)*. Statistically this is the commonest of the numerous auxiliaries and must be considered first.

In Wintu thought, Lee has pointed out that society is not regarded as a mass of individuals but the individual as a delineated part of society, and she instances the expression of the idea "I have a headache" as "I head ache" and "she has a

striped dress" as "she is dress striped." This type of expression, of course, even in America is not limited to Wintu but is found elsewhere, e.g. in Nahuatl (Aztec). In the noun-classifying languages of North Australia also it appears, though not in the Kimberleys. In Arnhem Land, however, this outlook is to marked that some of the languages have developed glossemes (in Swadesh's sense as used in Eskimo) —inset nouns that often bear no phonetic resemblance to the independent noun. Thus in Gunwinggu of Oenpelli area in Arnhem Land, where *gunbid* = 'hand', one says *ŋa-bid-djiridjburen* 'I hand-wash' rather than 'I wash my hands'. In Bathurst and Melville Islands, *moputi* = 'fish', but *ŋïrï-piaintili-ŋa* 'I took the fish' *(-piaintili-)*. All the languages where this type of expression is found are noun-classifying: the Bathurst-Melville language does not belong to the group otherwise than typologically, but in Groote Eylandt glossemes are found, and inset nouns appear in the Nunggubuyu of Rose River. The type of thought cannot be mistaken and there is every reason to regard it in the same light as Dr Lee has regarded Wintu thought.

For a similar reason the Kimberley languages favor the indirect approach, as it were, to nature and activity, in the use of the "strike" auxiliary with preponderating frequency. One does not just do a thing: one acts on nature or another person in a certain way. One does not perform a direct act but only an indirect one, just as Walaŋanda, given his material, acted on it to produce first the land and then the Wandjinas who would modify it in various ways. Not a making of something fresh but a change of form or status in something already existing is envisaged. The verb "make" takes this auxiliary: Ngar. *waṇdidj aŋo:n*. In the same way there is no passive voice in these languages, unless R. B. Love was right in holding that certain Worora forms represent the passive state. The cognate forms in the other Kimberley languages are reflexives and I believe that they still are so in Worora if rightly interpreted. Something is not changed by a direct act from outside: it changes itself, as Wandjinas do: Ngar. *wandjina waṇdidj a:wiŋga* 'Wandjina made himself'. Things "come into being," they are not "made."

What, then, of the small number of verbs the stems to which formatives are added directly? First it is advisable that the main body of such verbs be listed so that they may be examined. In Ngar. the chief items on the list are:

aŋijo:lun	'I lift'	aŋelan	'I hold'	aŋumindanan	'I touch'
aŋailaŋgan	'I trouble'	aŋelman	'I help'	aŋumiambun	'I hinder'
aŋamaliman	'I spear'	aŋíniŋan	'I put'	aŋumiaŋgan	'I annoy'
aŋamiimbun	'I show'	aŋo:dan	'I cook'	aŋumindjälan	'I await'
aŋanawadan	'I help'	aŋo:ḍidjelen	'I await'	aŋumiljāŋan	'I conceal'

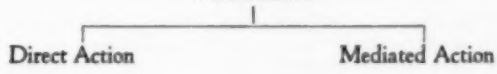
aŋandjun	'I make'	aŋomalando:n	'I follow'	aŋumuḍun	'I heal'
aŋaŋaŋa:wan	'I send'	aŋomuŋun	'I show'	aŋuŋulun	'I give'
aŋarguman	'I taste'	aŋuluwen	'I fear'	aŋuwiljän	'I spear'

The Kimberley languages, however, do not show a simple dichotomy of actions into direct and indirect. The indirect group is subdivided into a number of subgroups which specify the type of action much more closely. In some instances a verbal base may be used with more than one auxiliary; in others one particular auxiliary is practically fixed. Thus it is normal to say in Ngarinyin *djɔ: ŋa:* 'I (go) drink', because drinking water has normally to be got by a walk to the nearest creek. Sometimes, however, an action may be carried out in more than one way. Thus, starting from the root *mindjäl* 'mouth', it is possible to say:

1. *mindjäl ŋɛ:* 'I eat, I am eating' (*ŋɛ:* = 'I am').
2. *mindjäl ŋama* 'I eat (a kind of food)' (*ŋama* = 'I do').
3. *mindjäl aŋo:n* 'I eat, am eating a given kind of food now', 'I am acting on it with my mouth'.

The auxiliaries used in this series of compound verbs are the following: *aŋebun* 'I throw it (or him)', *aŋo:n* 'I strike', *aŋuman* 'I bring or take', *ŋa* 'I go', *ŋa:ma* 'I do or say', *ŋawan* 'I fall' and *ŋɛ:* 'I am'. One auxiliary (which may also be an independent, simple verb) enables distinction to be made between act and state: *aŋɛlan* 'I hold him': *māra aŋɛlan* 'I hold him in sight, am gazing at him'; *djɛrŋali jidjilan* 'they are playing'. This treatment of acts by type is reminiscent of the treatment of possession by types, and as far as thought patterns are concerned the two methods of procedure are parallel. If I do not directly carry out an action but bring it about by various kinds of influence *(aŋo:n)*, so I find it possible to specify the kind of influence more particularly. If I myself am affected by a happening, then I 'fall' *(ŋawan)* into a given state or I 'go' *(ŋ-a:)* into it, as in the case of Ngar. *debar ŋa:* 'I die', 'I go dead'. If it depends entirely on my voluntary action, still it is a state into which I fall: *ŋalaredj ŋawan* 'I lie on my back', 'fall into a supine position'. I am still part of nature in general and the state into which I enter *(ŋa:)* or fall *(ŋawan)* is just a part of the condition of nature as a whole.

Parallel, then, to the subdivision of nouns in these languages there is a subdivision of verbs which may also be represented diagrammatically:



In the "direct action" subdivision, actor and goal are expressed as prefixes, given before the activity is mentioned; in the "mediated action" subdivision the contemplated act is first mentioned, then the actor and goal (if any goal), and finally the method by which the act was carried out, according to one of the seven subgroups listed above. In certain spheres the personal element may thus be stressed, but in the vast majority the activity takes priority over the personal element.

One other aspect of Kimberley thinking remains to be considered, and this is shared with the noun-classifying languages in Arnhem Land also. The aspect referred to is the verbal form which I have called the Irrealis.[12] The Realis form covers all states or acts which are real: they are happening, did happen, or will definitely happen; the Irrealis covers those which are hypothetical, are not happening, or did not happen. The various languages make somewhat different assignments. The Kimberley Irrealis contains the negative but not the future: Maung includes the future. In Ngar. *ŋama* 'I do' > *ŋamara* 'I did', *ŋi:ma* 'I will do'; but *ŋangu-m-a* 'I may do it' (as a hypothesis), *wa: ŋangu-m-a* 'I do not do it', 'I did not do it', *biɛ:ra ŋangu-m-a* 'I can do it (if I wish)'. In Maung the scheme is more complicated:

A. REALIS	PRESENT:	Indicative Present and Future.
	IMPERATIVE:	Negative Only.
	PAST:	Simple, Continuous or Complete.
B. IRREALIS	PRESENT:	Potential, Indicative, Negative Present, and Future.
	PAST:	Indicative, Negative, Hypothetical, Imperative Positive.

Here again there is considerable resemblance to the Wintu style of expression as shown in another article by Dr Lee.[13] In that language there are two stems, with corresponding sets of suffixes, for each verb; the first "implies that the grammatical subject participates or has participated as a free agent in the activity or state described by the verb." The second stem with its suffixes is used to mark both an imperative and "is further used in the formation of the negative statement." Although the details of the working out differ from those of the Kimberleys—they are actually very close to some of the languages of the Southern Highlands of Papua—there is a very close resemblance in the system of ideas expressed by these means in both Wintu and these Australian languages.

12 A. Capell, *The Classification of Languages in North and North-west Australia* (Oceania, vol. 10, pp. 241-272, 404-433, 1940).

13 D. D. Lee, *Conceptual Implications of an Indian Language* (Philosophy of Science, vol. 5, pp. 89-102, 1938), especially the closing section (III).

3. The Conceptual Pattern and World View

Now, how are these thought-forms to be interpreted in view of the famous Sapir-Whorf hypothesis, which has aroused so much debate among American linguists?[14] That language governs the universe of perception is not necessarily a fact. At the same time thought without language seems to be an impossibility. Helen Keller, speaking of how she learned the word "water," says "[My teacher] brought me my hat, and I knew I was going out into the warm sunshine. This thought, if a wordless sensation may be called a thought, made me hop and skip with pleasure."[15] Yet Helen Keller had already a background, albeit dim, of the time before her affliction had come upon her, so that she does not stand in quite the position of primeval man. Neither is the present paper concerned with the origin of language as such, but only with a particular type of language, and the question is why this language took on the morphological character that it shows now.

It is clear that in nature percepts are given simultaneously. Many external facts impinge upon the mind at once. The strength of the *Gestalt* psychology lies in making this fact clear. At the same time speech is linear and events which are simultaneous can be expressed only in the temporal sequence of words. Concord such as is shown in North Australia and in the African Bantu languages provides the means whereby an individualized continuum may be pictured linguistically as a set of phenomena presented concurrently. The concord affix links in its domain all the relevant characteristics of the object or event with which it deals. Of course, inflection of all types does this: Latin *hortus magnus et bonus meus* 'my large and good garden' does this by means of its suffixial concord element—*us*. This suffix includes in its domain all the characteristics which are relevant to the garden. In a fully developed concord system of any type the entire *mise-en-scène* is presented as effectively as it is in a polysynthetic language such as Eskimo. In fact each system represents a different method of doing the same thing. The two show two different answers to the question: how may each quality of the object under discussion be most economically linked with it in speech?

The Ngarinyin (and other languages) no doubt existed before the particular Kimberley world view was developed. They undoubtedly antedate the mythology. Does it then follow that Whorf is right in holding that they have determined the world view? Is it not also possible that a world view, developed originally through a simpler type of language, may have reacted on the linguistic structure? His-

14 See *Language in Culture*, ed. Harry Hoijer (Chicago, 1954), p. 92 ff., and B. L. Whorf, *Language, Thought and Reality: Selected Writings*, ed. John B. Carroll (New York, 1956), pp. 51 ff, 57ff, 233 ff.

15 Helen Keller, *The Story of My Life* (London, 1906), p. 23.

torical proof or refutation of such a hypothesis is impossible; it is a balance of probabilities, not the least of which is the certainty that these multiple classifying languages represent the culmination of a long period of development on the morphological level as much as on the phonetic, syntactic, and semantic levels.

Those to whom the Sapir-Whorf hypothesis is a stumbling block by reason of its implied predestination, but who at the same time feel that it does offer a possible solution of some obvious difficulties, may like to consider the possibility suggested here. It is obvious that human language has developed over a period of unknown and unknowable length. It is obvious also that from the time when man actually became a thinking being he must have developed a world view of some sort, and that this process must have been preceded by the period in which human speech developed into a usable instrument. The suggestion is therefore made that such languages as the multiple-classifying languages, whether of North Australia or Africa, represent the result of reflected action of a particular type of world view on a comparatively simple type of language.

While it is true that no historical evidence can be offered for this suggested alternative to Whorf's hypothesis, it needs to be realized that no decisive proof of that hypothesis can be offered either—else, with all the discussion that has taken place regarding it, something definitive would surely have been gained before now. The alternative must be admitted as at least a possibility that makes it worth considering whether there may not have been such a reflex action of a dominant mode of thought on to the linguistic level, introducing into the latter the *Gestalt* already established in the former.

Dr Lee's conclusion[16] regarding Wintu applies very largely in the present case although the actual morphemes concerned are quite different, and the grammatical system also is different: "The Wintu are not conscious of their own Weltanschauung. But, obviously, their coherent morphological system is no accident, and must have been created through the years because of their unconscious attitude toward the world without and within them. . . . The question of origins is nonessential. Whether they invented, or used material at hand, they have integrated a number of discrete grammatical phenomena into one consistent morphological system, to express their fundamental categories. . . ."

This conclusion suggests practically the opposite process to that postulated by Whorf; the suggestions made in this paper provide a means of bridging the gap between the two viewpoints.

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16 Lee, *Conceptual Implications of an Indian Language*, p. 102.

AN APPRAISAL OF CERTAIN SPECULATIONS ON PREHISTORIC PUEBLOAN SUBSISTENCE[1]

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ONE FREQUENTLY ENCOUNTERS in archaeological reports of prehistoric villages and caves in the southwestern United States reference to the relatively small quantities of food-animal bone recovered from the sites.[2] Oftentimes there is noted a decrease in the quantity of bone from the older deposits to the more recent occupational horizons.[3] The usual explanation advanced for the relative scarcity of food-animal remains or the decrease in their quantity from early to late times is that agriculture supplanted, to almost near exclusion, a reliance upon animal foods in the native diet.

The present paper examines the reliability of this frequently stated assumption. It is merely an attempt to examine the kinds of evidence upon which the assumption rests and to determine whether or not other reasonable explanations for this observation might not be postulated on the basis of currently available evidence.

As a background to the possibilities suggested at the close of this paper, it will be necessary to review briefly certain comments made by various authors which originally prompted an examination of this question.

In the report of the excavations at Snaketown, the following observation is presented: ". . . it was their reliance on agriculture which almost completely eliminated hunting as a factor in Hohokam economy, as shown by the scarcity of animal bones and hunting implements."[4] Nowhere in the monograph is this statement documented.

One trash mound at Winona village in northern Arizona, systematically excavated by McGregor, yielded twice as many animal bones from the lower levels as were recovered from the upper levels. He interprets this observation in the statement: "It is quite probable that until the individuals of the household were established they required more animal foods until such time as their crops began yielding permanently."[5] It should, perhaps, be noted that the people of Winona village were very probably already farmers when they occupied the site at about 900 AD, and it probably would not take more than a couple of seasons for the crops to begin

1 Paper read before the Third Annual Meeting of the Kroeber Anthropological Society held in Berkeley, May, 1959.

2 Hough, 1930, p. 68; Gladwin, Haury, and Sayles, 1937, p. 50 ff., Newell and Krieger, 1949, p. 182; Martin *et al.*, 1952, p. 109; Judd, 1954, p. 67.

3 McGregor, 1941, p. 257; Haury, 1950, p. 150.

4 Gladwin, Haury, and Sayles, 1937.

5 McGregor, 1941.

yielding permanently, certainly not one-half of the 200 to 275 year occupancy of the site. In any case, it is believed by the writer that McGregor's generalization bears critical investigation. In this connection it may be noted that following the abandonment of Pueblo II sites in the vicinity of Sunset Crater, Arizona, the people returned and began their agricultural pursuits apparently without the necessity of a long readjustment period.[6]

Newell and Krieger, in connection with their excavation of the George C. Davis site in east Texas, remark: "From the relative scarcity of deer and bison bones . . . it is clear that hunting . . . [was a] very minor pursuit at this site from the beginnings of occupation so far as known."[7]

In his monograph on the archaeology of Ventana cave Haury states: "Bone was noticeably less abundant in the pottery layers of the midden than in the pre-pottery zone. This is the logical consequence of the introduction of the all-important plant food, corn."[8] However, no quantitative analysis of the faunal osteological remains is presented, but only a table of the horizontal distribution of species by level. This table indicates that in pottery-yielding levels 1 through 4, six species of wild mammals occur which are not present in the non-pottery levels, while in the non-pottery zone there are no species represented which do not also occur in the pottery levels. The table of reptilian and avian osteological remains also reveals a greater variety of species in the pottery zone, while the non-pottery bearing levels are shown as having no species present which do not also occur in the upper layers.[9]

Martin and Rinaldo offer the following cryptic comment in their paper on sites of the Reserve Phase: "On the other hand, whereas the ratio of projectile points to metates is approximately two to three for the Pine Lawn Phase, it is almost one to one for the [later] Reserve Phase. Also, the quantity of unworked bone and the number of species of animals represented therein is greater in the Reserve Phase. This is probably indicative of a shift in economy away from seed gathering toward hunting. . . . Although some burned rooms were excavated, only one charred corncob was found, and no charred beans, squash, or other vegetables. On the basis of such meager evidence, one can only conjecture that the economy of the Reserve Phase was predominantly agricultural, with some small dependence on hunting and possibly less dependence on gathering wild vegetable foods."[10]

With reference to Martin and Rinaldo's statement, I would first question the validity of conclusions derived from a comparison of the ratio between number

6 Colton, 1932, p. 583 ff.
7 Newell and Krieger, 1949.
8 Haury, 1950.
9 *Idem*, Tables 10 and 11.
10 Martin and Rinaldo, 1950, p. 453 ff.

of projectile points and metates when the difference in the ratios is as slight as it is in this example. Secondly, I would question the soundness of assuming a predominantly agricultural economic pattern on the basis of a single charred corncob.

From Tularosa Cave thirty-eight cartons of vegetal materials were recovered and only six cartons of mammal bone. This circumstance led Martin *et al.* to the conclusion that agriculture and gathering "had the more prominent place in the economy."[11] Another factor which apparently influenced them to assign hunting to a rather meager role in the economic picture was that ". . . in general the chipping technique tends to be more coarse than fine. These shortcomings in the chipped stone industry might be interpreted as reflections of lack of interest in hunting."[12]

Such an interpretation might be made, but I think that it would be rather difficult to defend under close examination. What might appear to be shortcomings in the technological aspects of projectile point manufacture in other primitive hunting cultures, such as the prehistoric Martis peoples in the Sierra Nevada of California, who utilized large numbers of percussion flaked inferior basalt points rather than finely flaked obsidian ones,[13] are hardly reflections of lack of interest in the pursuit.

Finally, Judd informs us in his report of the excavations at Pueblo Bonito that: "The relative infrequence of mammal bones in their rubbish heaps is ample proof that the Bonitians did not depend upon the chase for their subsistence."[14]

I wish to preface the following remarks with the statement that it seems quite reasonable to assume that after agriculture became firmly implanted in the economy of the peoples of the Southwest, there was a decrease in the emphasis on hunting and gathering practices. But I am not at all sure that the evidence indicates the near demise of hunting activities in the subsistence pattern of early Indian agriculturalists, except, perhaps, in the Valley of Mexico where, as Vaillant suggested, the population density became so great that the herds of game animals were markedly depleted in the Valley region and hunting pursuits became, of necessity, greatly curtailed.[15]

We have seen that the kinds of evidence upon which the assumption that agriculture displaced hunting rests is of a very speculative nature in most instances. The most frequently cited evidence is the relative paucity of large animal bone. The scarcity of such remains could possibly be accounted for by butchering and food preservation techniques, such as those practiced by some of the historic groups presently inhabiting the Southwest.

11 Martin *et al.*, 1952, p. 108.
12 *Idem*, p. 109.
13 Heizer and Elsasser, 1953; Davis, ms.
14 Judd, 1954.
15 Vaillant, 1941, p. 131.

Beaglehole, for example, in his monograph *Hopi Hunting and Hunting Ritual* informs us that after returning from the deer and antelope hunt ". . . most of the meat was sun-dried and preserved for later use. . . . The bones and skull[s] of the animal[s] were carefully placed aside, neither broken up for the marrow nor given to the dogs. . . . On the following morning, the bones . . . were placed on a shrine . . . close to the village with prayers for the increase of animals."[16]

Obviously such a ceremonial disposal of the bones, if similarly practiced by the earlier Pueblo peoples, would not allow a large accumulation of animal food remains in the trash heaps or in the general house and village debris.

In organized deer and antelope hunts lasting one to two weeks among the Navaho, Hill relates that: "The meat was jerked when the supply became large. It was cut in strips and laid across a stringer. . . . When it dried it was cut into smaller pieces and stored in buckskin sacks."[17] Further, he says that at the termination of the hunt, "After the hides were scraped the meat was cut up. The bones were removed and left in the brush circle [which had been erected as a windbreak for the hunters]."[18]

From the foregoing information, one might reasonably infer that the relatively few large animal bones in the old caves and pueblos may not reflect the true importance of hunting in the economy of the earlier peoples if they followed some such similar ritualistic disposition of large animal bones or similar butchering techniques. In this connection it is interesting to note that the most abundant faunal remains present in most of the sites are those of small rodents and rabbits, with rabbit bones predominant.[19] It is believed that such a circumstance would exist because the complete carcasses of such small animals would very probably be brought back to the village rather than the carcass stripped and the flesh dried. It also demonstrates that hunting activities did in fact play a significant role in the economy.

We know that deer and antelope were abundant in the Southwest, even into quite recent times; in the Navaho country Hill relates that: "Deer were so numerous that a party of four to ten men commonly killed, in a fortnight's hunt, as many as a hundred."[20]

Hill concludes: "Hunting, after agriculture, formed the most important economic pursuit of the Navaho."[21] And Beaglehole says: "Although Hopi economic

16 Beaglehole, 1936, p. 7 ff.
17 Hill, 1938, p. 128.
18 *Idem*, p. 113.
19 Judd, 1954, p. 246; Brand, Hawley, and Hibben, 1937, p. 100, Table 3.
20 Hill, 1938, p. 96.
21 Hill, 1938.

life is based fundamentally on agriculture, the hunting of animals plays a not inconsiderable role in the total economy of this desert people."[22]

Another question enters this discussion, and that is whether or not the early Puebloan peoples would be able to survive if they practically gave up hunting pursuits and relied almost entirely on agriculture, principally that of maize.

The geographic distribution and annual variation of precipitation are extreme in the Southwest.[23] One year a given area may receive an abundance of rain; the next year the same area may experience a drought. Seasonal distribution of rain also shows considerable variation, but in general this region receives maximum precipitation during the winter months and from mid-summer thunder showers. The late spring and early fall are very dry, as is most of the summer. When rains do occur, it is as if the whole countryside were suddenly drenched with a huge bucket of water. The runoff is very rapid; water drains off the benchland and cascades over the canyon rims. The streams suddenly become torrents of muddy water. Such flash floods are often known to inundate and destroy the small plots of maize.

The greatest number of consecutive days recorded without killing frost is 224, the least 78, the average being approximately 150 between the months of May and September. Since maize requires 90 to 150 days to mature after planting, and the dates of killing frost may occur later in spring and/or earlier in the fall, it can be realized that the combination of drought and frost might make complete reliance on corn agriculture quite hazardous. It is suggested that the early farmers of the Southwest would not put all of their food supply in a single and rather undependable basket.

The modern desert hunters carry out their main hunting activities in December and February, long after the maize harvest and before planting time. If the earlier peoples had a similar round of economic pursuits, there would be no conflict with agriculture, and hunting would be a considerably important supplement to an otherwise rather restricted subsistence.

Archaeologists are constantly under pressure to synthesize and interpret their findings. Frequently, under such pressure, some relationships appear to be obvious and are accepted at face value and a generalization is made without critically evaluating underlying evidence. Once such a generalization appears in print, it is often accepted by other investigators who recognize similar relationships, and the generalization perpetuates itself. Oftentimes there are too many underlying variable

22 Beaglehole, 1936, p. 3.

23 The geographical data presented is abstracted from the following sources: Bryan, 1954; Colton, 1918; Hack, 1942.

and alternative circumstances which could have been operating to allow accurate generalizations.

In summary, this paper suggests that the scarcity of food animal remains in the culture deposits of the early Southwest farmers might possibly be attributed to ceremonial disposition of animal bones and/or to butchering techniques rather than to the supposed lack of interest in or lack of necessity for hunting in the subsistence pattern.

Bibliography

Beaglehole, Ernest

1936 *Hopi Hunting and Hunting Ritual* (Yale University Publications in Anthropology, no. 4).

Brand, D. D., F. M. Hawley, and F. C. Hibben

1937 *Tseh So, a Small House Ruin, Chaco Canyon, New Mexico* (University of New Mexico Bulletin no. 308, Anthropological Series, vol. 2, no. 2).

Bryan, Kirk

1954 *The Geology of Chaco Canyon, New Mexico, in Relation to the Life and Remains of the Prehistoric Peoples of Pueblo Bonito* (Smithsonian Institution, Miscellaneous Collections, vol. 122, no. 7).

Colton, H. S.

1918 *The Geography of Certain Ruins Near the San Francisco Mountains, Arizona* (Bulletin, Geographical Society of Philadelphia, vol. 16, no. 2).

1932 *Sunset Crater: the Effect of a Volcanic Eruption on an Ancient Pueblo People* (The Geographical Review, vol. 22, pp. 582-590).

Davis, James T.

ms. *The Archaeology of Three Central Sierran Sites* (Report to the United States National Park Service, 1958).

Gladwin, H. S., E. W. Haury, E. B. Sayles, and N. Gladwin

1937 *Excavations at Snaketown: Material Culture* (Gila Pueblo, Medallion Papers, no. 25).

Hack, J. T.

1942 *The Changing Physical Environment of the Hopi Indians of Arizona* (Papers, Peabody Museum of American Archaeology and Ethnology, vol. 35, no. 1).

Haury, E. W.

1950 *The Stratigraphy and Archaeology of Ventana Cave, Arizona* (University of Arizona Press, Tucson).

Heizer, R. F., and A. B. Elsasser

1953 *Some Archaeological Sites and Cultures of the Central Sierra Nevada* (University of California Archaeological Survey Report, no. 21).

Hill, W. W.

1938 *The Agricultural and Hunting Methods of the Navaho Indians* (Yale University Publications in Anthropology, no. 18).

HOUGH, WALTER
1930 *Ancient Pueblo Subsistence* (Proceedings, Twenty-Third International Congress of Americanists, New York, pp. 67-69).

JUDD, N. M.
1954 *The Material Culture of Pueblo Bonito* (Smithsonian Institution, Miscellaneous Collections, vol. 124).

MCGREGOR, J. C.
1941 *Winona and Ridge Ruin, Part I* (Museum of Northern Arizona, Bulletin, no. 18).

MARTIN, P. S., AND J. B. RINALDO
1950 *Sites of the Reserve Phase, Pine Lawn Valley, Western New Mexico* (Chicago Natural History Museum, Fieldiana: Anthropology, vol. 38, no. 3).

MARTIN, P. S., ET AL.
1952 *Mogollon Cultural Continuity and Change: the Stratigraphic Analysis of Tularosa and Cordova Caves* (Chicago Natural History Museum, Fieldiana: Anthropology, vol. 40).

NEWELL, H. P., AND A. D. KRIEGER
1949 *The George C. Davis Site, Cherokee County, Texas* (Society for American Archaeology, Memoirs, no. 5).

VAILLANT, G. C.
1941 *Aztecs of Mexico* (American Museum of Natural History, Science Series, Garden City, N. Y.).

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CHIMBU TRIBES: POLITICAL ORGANIZATION IN THE EASTERN HIGHLANDS OF NEW GUINEA[1]

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THE 60,000 NATIVES known as Chimbu make up the largest language and cultural group in the Eastern Highlands of New Guinea, and one of the largest in the Territory. The Chimbu are not a single political unit, but are composed of numerous autonomous groups linked in shifting alliances. Before the discovery of the Wahgi valley populations in 1933 and their subsequent pacification, fights within and between tribes were frequent. Chimbu political units are of a larger size and result in a larger scale of political organization than has been reported in other parts of New Guinea. In 1959, an even larger unit was formed in the Waiye Native Local Government Council composed of four tribes, with a total population of about 10,000 people.

Some features of Chimbu social organization can best be explained in terms of the particular conditions of the area. But in many respects, the Chimbu are typical of the Highlands natives. Their staple food crop is the sweet potato, which is cultivated on square plots surrounded by drainage ditches. This practice, and terracing, permit the gardening of slopes of over 50°. One or more crops are taken from the garden, and then a fallow period, under grass and planted trees, is allowed before the land is recultivated.

All garden land is claimed by individuals and inheritable patrilineally. In some other societies, this has led to a rigid pattern of land holding by agnatic groups; but in Chimbu an individual has land claims in several parts of his subclan's far-flung blocks of land, and garden land is quite often transferred to kin and affines in other clans. In the past, land could be lost or gained in warfare.

Two distinct types of settlement are found in the Highlands of Australian New Guinea: scattered houses from Chimbu westward to beyond Wabag, and villages east of Chimbu and at Telefomin. In Chimbu, and in most of the Highlands societies, there is also a residential separation of the sexes. Each woman, with her unmarried daughters and sons under about six, lives on her husband's land, either near a current garden or in a pig forage fallow area. (One of the feminine domes-

1 This paper was read at the 34th Congress of The Australian and New Zealand Association for the Advancement of Science in Perth, August, 1959. It is largely based upon field research carried out by the author in 1958, as a Research Fellow of the Australian National University.

tic tasks is the care and feeding of pigs.) With a population density of over 300 per sq mi, few women are beyond calling and visiting distance of other women's houses, but there is no aggregation of dwellings. In the areas which are mainly under cultivation, several women's houses are sometimes near a men's house, but they may be quite isolated in the fallow stretches. Men's houses are also scattered, but these are communal: the average men's house contains four men and their sons. East of Chimbu, the men's house seems to be a permanent subdivision of the village. But there are many factors in Chimbu which serve to make the inmates of a men's house a fluctuating group. A man normally lives in one of the houses of his subclan, convenient to land which he is currently gardening. The passage of the cultivation and fallow cycle, which is only partly coördinated among the claimants of neighboring garden plots, the gatherings at the ceremonial grounds every six to ten years for large-scale pig feasts, personal inclination to live separately or with friends, kin or affines in neighboring groups, and the limited lifetime of the buildings, all affect residence. The men's house group is by no means a patrilineage; in fact, close agnates live apart more often than they live together, and most houses contain men who are not agnatically related to any members. The Chimbu men's house group of ten has a stable core, but actual residence is quite variable.[2]

There is a superficial appearance of similarity in the reported ethnography of these Highlands societies, because of the use of the terms subclan, clan, phratry, and tribe.[3] But the same term has been used to describe groups of quite different sizes and functions. For example, the average Enga clan is three times the size of those in Gahuku. Also, these units have a very wide range of sizes in any particular society: Kuma clans, for example, vary from 100 to 1700 persons. All of these societies have some sort of a hierarchy of patrilineal groups, and it is often possible to discern stages of segmentation. There appears to be a peculiar fluidity and

2 Further detail on these features of Chimbu will be found in Brown and Brookfield, 1959.

3 The use of "clan" in New Guinea Highlands ethnography generally follows that proposed by Murdock (1949), that is, the clan is both a residential group and a unit based upon unilineal descent. Some confusion may arise from this usage, as the residents of a clan-village or a clan-territory include: (1) males who are natal members of the patrilineal descent group; (2) their unmarried daughters and sisters who will leave at marriage; (3) their wives, whose natal membership in another community is recognized, and who form links between groups; and (4) men and boys who are non-patrilineal kin or affines, and who may become incorporated or adopted members. In discussing the Huli descent system, Glasse (1959) uses "clan" for a non-territorial descent unit with little co-activity; such a group has not been reported elsewhere. Using Murdock's criteria, some Highlands groups composed of several "clans" might also be called a "clan," but "phratry," "tribe," or other terms have been used. On this larger group level, the distinction I draw between "tribe" and "phratry" in Chimbu shows that local and descent groups do not necessarily correspond.

mobility in these New Guinea Highlands social structures; they lack the genealogical base,[4] ancestor concern, and ritual attachment to land which is associated with unilineal descent groups in other non-centralized horticultural societies.

I will briefly describe the groups which I call subclans and clans before turning to the main subject of this paper, Chimbu tribes. Genealogical ties are not far extended in Chimbu, and the relations between subclans and clans which claim common origin are in terms of mythological ties of brotherhood. The membership is recruited primarily by birth: children of both sexes are regarded as members of their father's subclan, clan and tribe. Marriage is patri-virilocal, and the persons who live permanently on a subclan territory are the natal male members, their unmarried daughters and their wives. Adoption occurs, most often when a widow takes her young children to live with her brother and they remain with him. In the Naregu tribe of central Chimbu where our work was based, the subclan has an average population of 123 including men, their wives and children; it ranges from 36 to 243.[5] The subclan is named; its territory is made up of a number of blocks of garden land scattered through the clan territory; the only joint subclan land is a plot in the ceremonial ground, burial grounds, and perhaps forest on slopes too steep for cultivation.

There are often groupings of subclans within a clan, but these are variable and realignments are possible. The clan, however, is a distinct unit. Although the government census does not always allow us to discover the clan groupings, there appears to be a range in population size from less than 200 to over 1200, with a mean of about 700. Each clan has a name, and most of its land lies in a territorial block. Furthermore, the clan is exogamous; within the clan, all persons are expected to help and support one another on certain occasions, but they may not marry. Outside the clan, there are many ties of kinship and affinity derived from present and past marriages, and persons help one another according to these personal ties. As most marriages are between neighboring clans, the clans are stitched together by a large number of ties between individuals.

The Chimbu clan is larger than clans elsewhere in the New Guinea Highlands; it is perhaps more comparable to the exogamous groups which are parts of phratries or subtribes in the terminology of other ethnographers. I use "clan" for the exogamous unit, because I want to reserve the terms "phratry" and "tribe" to describe important and different social groups in Chimbu. Put briefly, the *phratry* is a group of clans linked by a tradition of common descent; the *tribe* is an alliance of

4 Variations in genealogical depth are discussed by Salisbury, 1956a.

5 Population figures are taken from the 1957 census.

neighboring clans.[6] In order to understand the larger units, we must look into the traditions of origin, fights, and migrations.

A general tradition of origin is found throughout Chimbu, and includes some of the surrounding groups who have a slightly different langauge and culture. All trace their source to Womkama, a place about two-thirds of the distance up the Chimbu River from the confluence of the Chimbu and the Wahgi. In the origin story, there were at first three people: a man, his wife, and another man who represents a group different from that of the husband. This other man taught the woman and her husband some basic Chimbu techniques, such as making fire. The husband became suspicious of this too-knowledgeable man. They fought, and the husband was forced to flee. In the various versions of the tale, the men represent different groups, so that each group identifies itself as one of the original men, and may explain its present location by winning the fight and remaining at Womkama or by being forced to flee. But this tale explains only the common origin and the first of a series of group moves. Each group also has a set of traditions to account for its present territorial claims and relations with other groups, describing alliances, fights, and migrations. Many of these merge with living memory, so that the last moves of the group can sometimes be described from the personal experience of the older men. Since 1933, no large fights or group migrations have taken place. After pacification, some displaced persons returned to their home territories.[7]

The traditions help us to understand the present organization, but we must distinguish between the traditions of common descent and the local alliances even though clans may be joined by both processes. Chimbu phratries are composed of two to eight clans with a tradition of common origin. It is often said that the phratry was once a single exogamous clan; by growth and segmentation, the present clans developed. The Chimbu, like other Highlands peoples, commonly visualize

6 The terms as used by ethnographers writing about these societies do not correspond to the most common American usage. This is particularly true of "phratry": it is a group of clans linked by a tradition of common descent, which may have some other characteristics such as a territory. The largest exogamous group is called a "clan" by most New Guinea Highlands writers. However, the Mbowamb "great clan" ("Grossippe") and "tribe" ("Stamm") are exogamous (Vicedom and Tischner, 1943-48); Read (1952, 1955) uses "subtribe" for the Gahuku-Gama exogamous unit, while Salisbury has called this both a "subtribe" (1956 a,b) and a "phratry" (1958). In using "phratry" as defined above, I follow Meggitt (1957, 1958) and Reay (1959 a,b). The term "tribe" has been used by Vicedom and Tischner, Read, and Salisbury for a territorial unit composed of several clans; it may have various other characteristics, such as common military or ceremonial activities or a tradition of common descent. The Berndts (1953, 1954, 1955) use "district" for such a unit, while Ryan (1959) has called the larger groups in Mendi a "clan cluster."

7 Patrol reports of the Chimbu area, which were most generously made available to us by the Department of Territories, contain accounts of the traditions of origin from various tribes and also report these movements.

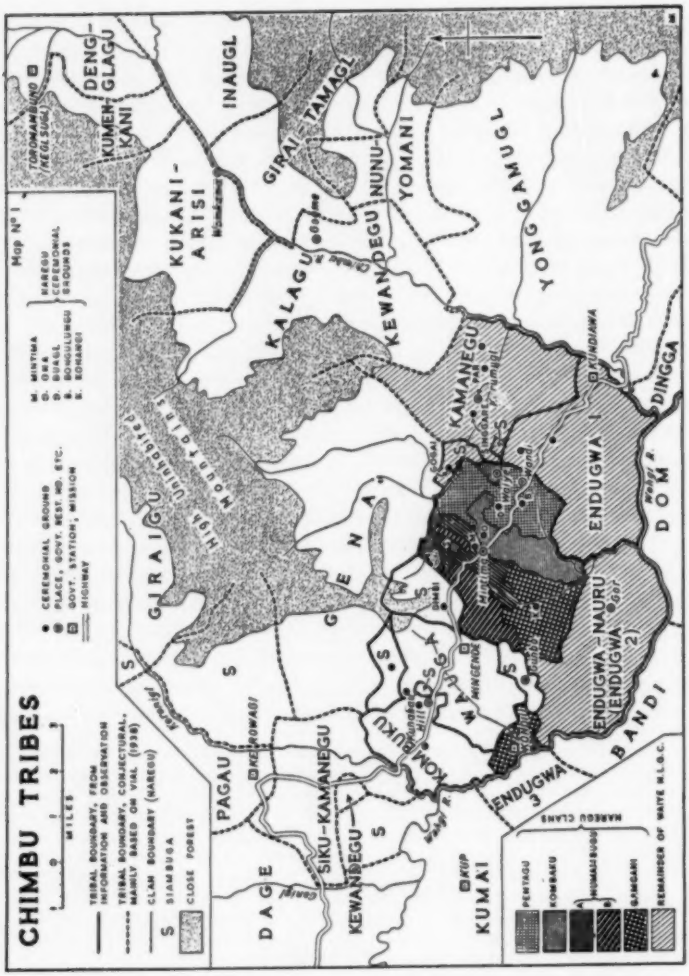

FIG. 1. Location of the Chimbu tribes, Eastern Highlands of New Guinea.[8]

parallel segments as "brother" groups: each clan in a phratry is said to have been founded by a brother. The name of a clan is the name of one of these brothers, with a suffix meaning agnatic descendants. If the Chimbu had unlimited space for expansion and did not conquer land in warfare, we might find a territorial phratry derived from the growth and segmentation of clans. But such expansion could not take place in a confined valley such as the Chimbu, and in fact we find that most phratries are more or less dispersed.

In the upper Chimbu valley, population densities are over 600 per sq mi. The traditions throughout Chimbu state that this has been an area of out-migration. The groups which are now found on the western fringes of Chimbu—in the Koronigl valley and beyond—usually bear names which are also found in the Chimbu valley and claim a common origin with these people. For some time after the migration of part of a clan, the two widely separated sections of the clan may continue to recognize common clanship. Groups which are larger and have been longer separated still retain a tradition of common origin, but have little contact with one another. Prolonged separation makes the ties of clanship meaningless: visiting ceases, coöperation is not possible, and, as the occasions for courting and marriage do not arise, the exogamic rule is not invoked.

The prevalence of fights and warfare in the Highlands is well known. Land conquest has been reported among the Enga, Mendi, Mbowamb, and Chimbu, but not in other societies. In Chimbu, at the frontiers between group territories, gardens were subject to burning, pigs to theft, houses to attack, and persons to murder. Such acts were part of the prevailing hostile relations; occasionally they gave rise to a larger fight. Intermittent warfare, sometimes involving hundreds of men, occurred on the frontiers between traditional enemies. The immediate causes of fights were these hostile acts and disputes over women, land, sorcery accusations, or payments. There are frequent disputes between neighbors, especially where the smaller social units do not form territorial blocks. Thus when a pig breaks through a fence and destroys part of a sweet potato crop, or a man extends his garden into a fallow area claimed by another, or a man visits his neighbor's wife, or a child dies in circumstances where sorcery is suspected, neighbors quarrel. Within the subclan and the clan, no permanent hostility is possible, because men must pass through one another's land to assemble, neither side can enlist a large group of allies, and there is pressure by fellow-clansmen to settle disputes.

When neighbors are not bound to one another by common clanship, each party

8 This map was prepared by Dr H. C. Brookfield of the Department of Geography, Australian National University, who carried out research in the Chimbu area in 1958. It is reprinted here with the permission of Dr Brookfield and the editor of *Oceania*.

may be able to mass support for a fight at a clan boundary. Interclan fights did occur, with the occasional result that land was conquered and the defeated were forced to flee. There were several possible forms of this: sometimes the defeated were invited to return, compensation exchanges were made, and a boundary was reëstablished at or near the former one; at other times some of the defeated fled as individuals or small groups and found refuge with kin and affines, to be later absorbed into these groups; a third outcome, group migration, is responsible for the scattered distribution of many clans and phratries.

So far, we have seen that clans are likely to be solidary units, but we have not yet seen how this is achieved in larger groups. We must first point out that commonly part of a phratry is found as a territorial unit. Clan territories within a local phratry are not single continuous blocks; they often occur as a main block, with isolated islands of land within the territory of other clans of the phratry, or between the land blocks of other clans of the phratry. Interdigitation of clan territories is greater in Kamanegu than in Naregu, and it is greater still in the upper Chimbu valley where settlement, land conquest, and other land transfers have been going on longer than in the Naregu area.

Because of this interdigitation of land, opposing forces within the phratry could not be readily mobilized or, once mobilized, could not maintain permanent hostilities. The land between these phratries or part-phratries, on the other hand, is not always fully occupied, so that some sort of a buffer zone is often found. Within the main area of phratry settlement, communication among the clans is possible by the Chimbu practice of ululation and shouting from hilltops. When a boundary was attacked, the land and houses of more than one clan were endangered, and the threatened groups combined to resist the attack or launch a counter-attack. There are many reasons why these clans formed a military unit: aside from the way that land is distributed among the clans, there is the multitude of personal ties between individuals. We noted earlier that marriages usually take place between neighboring clans: furthermore, neighboring clans within a local phratry intermarry more frequently than do neighboring clans outside it. There is much mutual aid, sharing of houses, and transfer of land among kinsmen and affines of neighboring clans within this group. And a man who is temporarily living with his sister's husband becomes involved in his problems; he may bring some of his clansmen in to help when an outside attack occurs.

These local phratries, or parts of phratries, were relatively peaceful units. When there were internal fights, they did not last long, and compensation was paid for men killed. In the course of fights, adoptions, migrations, disease, and the uneven growth of population, some phratries became large and powerful, while

other phratries and clans declined in population. The members of these remnant groups were at a disadvantage in the defense of their territory, and they could not maintain a position in the large-scale exchanges and group gifts. Our accounts of fights and alliances describe them as shifting to support or oppose the larger groups surrounding them. This ambivalent relationship could not continue for long; the group was subject to attack from all sides by more powerful neighbors.

Some such groups have probably completely lost their identity. Members of a group which was forced to disperse as individuals and in small groups would be absorbed by their hosts. In the absence of long genealogies, their separate origin would not long be recorded in tradition: their children and grandchildren would not be distinguished from those of their hosts. Sometimes, a remnant group could build up its numbers by adopting refugees and thus occupy its land more successfully. Other remnant groups could survive in a more permanent alliance with one of the powerful neighboring phratries. When such a remnant group has been incorporated, names and traditions record the event. The incorporated group does not become another clan in the local phratry; it frequently has phratric ties with other clans elsewhere. I call this local alliance of clans a tribe.

By this process, we often find that the core of a tribe is a group of clans forming a phratry. Frequently, a part of the phratry migrated at some time in the past, so that the tribal core is in fact a local part-phratry. The stability of these tribes composed of part-phratries and incorporated groups can no longer be tested, because fights and migrations have ceased.

It is, however, possible to distinguish some stages in the incorporation of groups. At the time of first European contact, some of the smaller groups were clearly attached to a larger neighbor. Others, however, were fluctuating in their alliances or perhaps were in process of migrating to consolidate with detached sections of the clan or phratry. Their position has remained ambivalent: while they are politically allied with the larger group, they have remained independent in some other matters, such as ceremonial activities. This relationship has also been fostered by Administration, since the small groups are no longer in danger of losing their land in warfare, and thus being forced to choose a permanent ally or leave the area.

If these phratries or local parts of phratries, plus small remnants of other groups, were the only form of Chimbu larger organization, it would not be necessary to use an additional term, tribe, for these units. We would simply have a form of political organization in which the dependence of small groups upon large ones was accommodated by partial incorporation. There are other reasons why the phratry must be distinguished from the tribe. One is that the traditions of origin

and movements record the dispersal of some phratries, and the widely separated groups often maintain social relations by visiting and the retention of clan exogamy. They may combine to give or receive a large-scale food distribution. The relations between the dispersed parts of a phratry do not involve military alliance, which was a most important tribal activity. Secondly, intraphratry fights sometimes led to tribal fission and migration. The Endugwa phratry is composed of three tribes which were formed after such fights. They are quite distinct even though two of them have a long common boundary.

Some Chimbu tribes are alliances of equal partners belonging to two distinct phratries. Many of these tribes are known by the names of the two groups so allied. The pairing of two nouns in juxtaposition is a common feature of the Chimbu language. For example, Siambuga-Wauga tribe is composed of part of a very large clan in Siambuga phratry and two Wauga clans; although their traditions record a fight about forty years ago, this was followed by a peace exchange, and since then the two sections have formed a unit, first in military and ceremonial activities, and, since 1934, as an administrative unit which has more recently accepted a single Luluai as its leader. The Siambuga-Giraigu tribe in the upper Koronigl valley is a similar case, composed of another Siambuga clan and part of the Giraigu who trace their origin to the Chimbu valley. Several tribes in the upper Chimbu valley also carry such names. This form of alliance is not always recorded in tribal names: Kamanegu tribe consists of four clans of Umbanegu phratry and a large Simbaigu clan. These alliance-tribes are composed of two groups of nearly equal size. It is only in alliance that they could face the neighboring tribes on terms of equality, successfully defend their territory and make an adequate presentation of food and goods in exchanges.

It does seem that a certain size of political unit was general in the Chimbu area, and this is larger than the clan. Tribal size varies, within certain limits, and it is not always possible to place a small fluctuating clan in one or another of its neighboring tribes. Thus any simple calculation of average tribe size would have little meaning. The largest tribe seems to be the Gena, a group which is spread over a considerable area, and whose northern fringe is high forest on the flanks of Mt Wilhelm. Gena is unusual because it is a phratry as well as a tribe, and has a total population of 4500. The bulk of Chimbu tribes, however, have a population of 2000-3000.

The Chimbu distinguish between phratries and tribes, even though the same group names are sometimes used. The tribal name is, in fact, often a phratry designation which does not take account of the names of small incorporated groups. However, the distinction is made when referring to the relations within

the groups. Thus a group which is regarded as composed of the patrilineal descendants of a man is called *nem-angigl,* meaning "father-brother"; *nem-angigl* is used for groups of various sizes—the subclan, clan, and phratry, but always to connote common agnatic descent. The two groups of separate origin which are joined by an alliance are, on the other hand, referred to as *angigl-angigl,* or "brother-brother." The Chimbu kinship term "brother" may be extended very widely on occasion, and does not refer to agnatic relations in all of its usages; thus "brothers" are not necessarily sons of the same father. For example, a man may call any of his approximate contemporaries "brother" within the phratry. Older men, however, are addressed as "father" within the clan and as "mother's brother" in other clans of the phratry.

It is not possible to assert great stability for these tribal units which are alliances of two groups of independent origin. The traditions which we collected lead to a view of Chimbu larger-scale organization as in a constant state of shifting alliances and frequent dispersal and migration. The settlement of the western part of Chimbu territory, reaching into the middle Wahgi valley, cannot be dated in its earlier stages, but some of this occurred within living memory. Twenty-five years of administration using these units may well have given them a stability that they could never achieve when warfare was frequent. A small remnant clan which may have been loosely attached to a tribe has often been included in the new administrative unit, termed a "group." This "group" has a number of common responsibilities. The Government has appointed one or, occasionally, two Luluais for each such group, and this has further stabilized the units. It is notable that when a man has been placed in charge of a group outside his tribe, he has rarely succeeded in maintaining his authority there. Under Administration, boundaries between tribes have been marked with lines of trees and cordyline plants, a procedure which is always accompanied by disagreements between the bordering tribes, but which has resulted in giving the tribes a fixed territorial block.

It will be interesting to compare Chimbu structure with that of other Highland peoples. For many of these, the population is only roughly estimated and the political structure is as yet unstudied. For those societies concerning which we have some ethnographic data, however, some comparisons can be made.[9]

To the east of Chimbu, where village settlement prevails, villages are grouped into local tribes whose population seems never to have exceeded 1500, and many of these are smaller than 1000. West of Chimbu the organization is more variable, and a unit including several clans has been termed by the several writers a tribe,

9 Much of the material presented here has been published since Read's (1954) study.

TABLE 1

People[10]	*Group*	*Size*	*Composition*	*Territory*	*Common descent*	*Exogamous*	*Ceremonial unit*	*War unit*	*Internal warfare*
Enga	Phratry	1020-1330 av.	6 clans av.	+	+	−	−	occasional	occasional
	Clan	280-360 av.	2-8 subclans	+	+	+	+	+	limited
Huli	Phratry			−	+				
	Clan			−	+		occasional		
Mendi	Clan cluster		2-4 clans	+	in part	in part	+	+	limited
	Clan		2-6 subclans	+	mainly	+	+	+	−
Mbowamb	Tribe	700-3500	6-27 clans	usually	+	+	+	occasional	limited
	Great clan			+	+	+			
	Clan	38-395		+	+	+	+	+	prohibited
Kuma	Phratry		2-9 clans	−	+	−	−	−	occurred
	Clan	300-600 av. 100-1700 range		+	+	+	+	+	−
Chimbu	Tribe	1500-4500	2-8 clans	+	some	−	+	+	occasional
	Phratry	1200-4500	2-9 clans	few	+	−	local section	local section	occasional
	Clan	700 av.	2-6 subclans	+	+	+	+	+	limited
Siane	Tribe	400-1500	2-9 clans	+		−	−	−	
	Sub-tribe or phratry		2-3 clans	+	+	+	+	+	−
	Clan	250 av.	2-4 men's house groups	village	+	+	+	+	−
Gahuku-Gama	Tribe	500-1000		+	+	−	+	+	prohibited
	Sub-tribe	200-500	2 clans	+	+	+	+	+	−
	Clan	100		1 or more villages	+	+	+		−
Kamano, etc.	District	200-700	several villages			−	+	+	+
	Clan		village	+	+	+	+	+	+

+ indicates that the characteristic is present, e.g. that the group is a ceremonial unit, etc.
− indicates that the characteristic is absent, e.g. there is no internal warfare, etc. Where no information is available, the space is left blank.

great clan, phratry, or clan cluster. Of these larger units, only the Mbowamb of Mt Hagen have tribes of over 3000 members, and the average tribe is smaller. In most of these societies, the clan is the main political unit. Thus Enga localized phratries average 1020-1330, but it is the clan rather than the phratry that is the important political unit, and clans number a few hundred persons.

Although we might be tempted to explain the larger groupings in Chimbu as a product of high population density, comparison with other areas does not support this. The Enga are the second most densely settled Highlands people, with small effective political units, and the Mbowamb density is much lower although the tribes are large.

The larger Highlands groups are usually unified by a tradition of common origin, whether these have been called phratry or tribe. These are usually territorial groups as well; only Kuma, Huli, and Chimbu have dispersed phratries. The Chimbu distinction between tribe and phratry has not been reported elsewhere. Mendi clan clusters resemble Chimbu tribes in some respects, but are not primarily military alliances.

In the Highlands, when a group of clans claim common descent, this does not always make the inclusive unit exogamous. The exogamous group, whatever its composition, is usually also a territorial, ceremonial, and military unit within which internal warfare is restricted. Affines, the members of neighboring exogamous groups, are often ceremonial exchange partners, recipients of distributions, and military enemies. But in Chimbu, almost half of the marriages take place within the tribe, and these intratribal affines are more often collaborators than opponents in ceremony and war.

Group expansion in Chimbu involved the migration of small groups out of the Chimbu valley. The resulting fragmented groups were unable to maintain and

10 The groups are arranged roughly from west to east in the Western, Southern, and Eastern Highlands Districts of Papua-New Guinea.

This table is based as follows:
Enga: Meggitt, 1957, 1958
Huli: Glasse, 1959
Mendi: Ryan, 1959
Mbowamb: Vicedom and Tischner, 1943-48
Kuma: Reay, 1959a, 1959b.
Siane: Salisbury, 1956a, 1956b, 1958
Gahuku-Gama: Read, 1951, 1952, 1954-55, 1959
Kamano, etc.: R. M. Berndt, 1954, 1955; C. H. Berndt, 1953.

In writing about the Chimbu, whom he calls Kuman, Nilles (1943-44, 1950, 1953) uses a different terminology from that presented here: his "subclan" is my "clan," and his "clan" is my "tribe." He does not distinguish between tribe and phratry, although some groups are shown as found in several locations.

defend their territory. The smallest groups were incorporated, while larger ones formed alliances on more equal terms. I am inclined to conclude that the Chimbu have tribes as well as phratries because a local alliance protected the smaller groups against the large neighboring phratries.

Bibliography

Berndt, C. H.
1953 *Socio-Cultural Change in the Eastern Central Highlands of New Guinea* (Southwestern Journal of Anthropology, vol. 9, pp. 112-138).

Berndt, R. M.
1954 *Reaction to Contact in the Eastern Highlands of New Guinea* (Oceania, vol. 24, pp. 190-228, 255-274; vol. 25, pp. 231-232 Errata).
1954-55 *Kamano, Jate, Usurufa and Fore Kinship of the Eastern Highlands of New Guinea: a Preliminary Account* (Oceania, vol. 25, pp. 23-53, 156-187).
1955 *Interdependence and Conflict in the Eastern Central Highlands of New Guinea* (Man, vol. 60, no. 116, pp. 105-107).

Brown, P., and H. C. Brookfield
1959 *Chimbu Land and Society* (Oceania, vol. 30, pp. 1-75).

Glasse, R. M.
1959 *The Huli Descent Systems: a Preliminary Account* (Oceania, vol. 29, pp. 171-184).

Meggitt, M. J.
1957 *Enga Political Organization: a Preliminary Description* (Mankind, vol. 5, pp. 133-137).
1958 *The Enga of the New Guinea Highlands: Some Preliminary Observations* (Oceania, vol. 28, pp. 253-330).

Murdock, G. P.
1949 *Social Structure* (New York: Macmillan).

Nilles, J.
1943-44 *Natives of the Bismarck Mountains, New Guinea* (Oceania, vol. 14, pp. 104-124; vol. 15, pp. 1-19).
1950 *The Kuman of the Chimbu Region, Central Highlands, New Guinea* (Oceania, vol. 21, pp. 25-65).
1953 *The Kuman People: a Study of Cultural Change in a Primitive Society in the Central Highlands of New Guinea* (Oceania, vol. 24, pp. 1-27, 119-131).

Read, K. E.
1951 *The Gahuku-Gama of the Central Highlands* (South Pacific, vol. 5, pp. 154-164).
1952 *Nama Cult of the Central Highlands, New Guinea* (Oceania, vol. 23, pp. 1-25).
1954 *Cultures of the Central Highlands, New Guinea* (Southwestern Journal of Anthropology, vol. 10, pp. 1-43).

1955 *Morality and the Concept of Person among the Gahuku-Gama, Eastern Highlands, New Guinea* (Oceania, vol. 25, pp. 233-282).
1959 *Leadership and Consensus in a New Guinea Society* (American Anthropologist, vol. 61, pp. 425-436).

REAY, M.
1959a *Two Kinds of Ritual Conflict* (Oceania, vol. 29, pp. 290-296).
1959b *Individual Ownership and Transfer of Land among the Kuma* (Man, vol. 59, no. 109, pp. 78-82).

RYAN, D'ARCY
1959 *Clan Formation in the Mendi Valley* (Oceania, vol. 29, pp. 257-281).

SALISBURY, R. F.
1956a *Unilineal Descent Groups in the New Guinea Highlands* (Man, vol. 55, no. 2, pp. 2-7).
1956b *Asymmetrical Marriage Systems* (American Anthropologist, vol. 58, pp. 639-655).
1958 *An "Indigenous" New Guinea Cult* (Kroeber Anthropological Society Papers, no. 18, pp. 67-78, Berkeley).

VICEDOM, G. V., AND H. TISCHNER
1943-48 *Die Mbowamb: Die Kultur der Hagenberg-Stamme im ostlichen Zentral-Neuguinea* (3 vols., Hamburg).

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A STUDY OF THE MILPA SYSTEM OF LA VENTA ISLAND AND ITS ARCHAEOLOGICAL IMPLICATIONS

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THE GOAL of the present study[1] is to investigate what light modern peasant land-use patterns, farming methods, and production-consumption data in the La Venta region of northern Tabasco might cast on the problem of the ancient occupation of the archaeological site of La Venta, Tabasco (ca. 800-400 BC)[2] and derivatively, on the demography of the region at that period (the "La Venta" archaeologic horizon).[3] Initially it was planned that the field research should be concentrated on the island of La Venta itself which has a maximum surface area of 5.22 sq km,[4] but, as will be shown, the data from the island were not satisfactory for our purpose.

The permanent residents of the archaeological zone at La Venta consist of the patriarchal ninety-four year old Don Sebastian Torres, who has lived on the site almost continuously since he first moved there in his early twenties, his sons, sons-in-law, grandchildren, and their families, plus a few affinal and other relatives. The writers considered that statements by Don Sebastian and his sons regarding land-use could be checked by visiting and sketch-mapping tracts actually cleared and planted, beginning with those currently in use and working back for a number of years. It was known, of course, that modern, and presumably ancient, peasant farming involves letting a cultivated tract revert to bush for a fallowing period; the crux of the problem as to the acreage required to support a given unit of population—per capita or per family—depends on the length of the fallow periods. Drucker found that the data from La Venta did not lend themselves particularly well to the treatment planned, nor to comparisons with the patterns presumably followed in ancient times for the following reasons:

1. The land-use patterns of the Torres family have suffered major modifications and dislocations since 1941, the year that Petroleos Mexicanos began the program of intensive explorations on La Venta island which led to the development of a major oil field there. In the course of those explorations and development work,

1 Fieldwork was done by Drucker. We gratefully acknowledge a grant (No 37) from the Associates in Tropical Biogeography of the University of California (Berkeley) through its chairman, Dean Morris Stewart.

2 Drucker, Heizer, and Squier, 1957.

3 Drucker, 1947, 1952; Heizer, 1957; Drucker, Heizer, and Squier, 1959.

4 For a map and description of the island, see Drucker, Heizer, and Squier, 1959, pp. 6-7, fig. 2.

extensive areas of cultivable land have been made unavailable, permanently or temporarily, to the La Venta natives. The dislocations were augmented in 1954, when the southern part of the island (including a large mound group) was made a base of operations and a source of aggregate of a construction company engaged in building the Blasillo River section of the "18th Parallel Highway" connecting Allende, Veracruz, and Cárdenas, Tabasco.

2. In regard to bases for making comparisons with ancient land-use, it was learned that from the inception of the modern occupation La Venta was utilized for a commercialized type of agriculture aimed at the production of larger surpluses of maize than would have been possible for an equal number of ancient farmers (lacking modern steel tools), and in addition, at the extensive production of crops unknown in pre-Columbian times: pasture-grasses (for cattle) and coffee. We were aware of the fact that in recent years this commercialized pattern was in vogue; not until inquiry was made did it become clear that it had been planned and practiced from the beginnings of the modern settlement.

A thumbnail sketch of the history of this settlement will make the point clear. La Venta was selected as a home by four men from the Nahuatl-speaking town of Cosoleacaque (some 20 km west of Minatitlan, Ver.) in the middle 1870s. The four appear to have been unusual among Indian peasant farmers of their day. They were ambitious, literate, free of debt-obligations, and all possessed of modest amounts of capital. The leader, and wealthiest of the four, was Don Manuel Alor, later Don Sebastian's father-in-law. They had come to the settlement of Tonolá in search of a sizable tract of land they could exploit with interference. They came to know of La Venta because it was a popular hunting area for people from Tonolá—game abounded there. Manuel Alor and Quirino Torres were interested in cattle-raising and began planting their first milpas to pasture grass. Pasture is a permanent crop, not allowed to revert to bush, and thus becomes permanently unavailable to maize. Alor brought his first cows to La Venta three or four years after settling there. He eventually built up his herd to about eighty head, a level at which he maintained it. Quirino Torres' herd was never so large, but he always had fifteen or twenty head. One of the other men went in for hog-raising, maintaining a herd of from one hundred to two hundred head, which meant that he planted and harvested large crops of maize to feed them. The others, of course, kept a few hogs also. The fourth went in for coffee-planting and within a few years had several thousand producing trees; the other three had smaller coffee plantations. All this produce was destined for sale at Tonalá, then a small but busy settlement with a Customs Office, a shipping center for mahogany and cattle, the site of a small military garrison, and supply outpost for Minatitlan and, in the 1880s, for

La Barra (now Coatzocoalcos) when that settlement was made Port of Entry and began to grow. A few other people, mostly relatives from Cosoleacaque, came to the island to settle. By 1903 there were ten families residing there, plus a small but constant flow of visiting kin who spent from a month to a year or so, then went home. That year the ten permanent family heads petitioned for title to five caballerias (a caballeria consisted of 42.5 hectares)[5] of land which was surveyed for them and divided into ten lots, four large and six small. Of this area, an estimated 40 hectares was in pasture and 20-25 hectares in coffee plantings. Don Sebastian soon petitioned for title to an additional tract on the grounds that his lot, a small one, was inadequate for the support of his family; other residents sold their lots for the same reason. In brief, under this type of commercialized use the island of La Venta could support no more than 10-12 biologic families, whereas under the subsistence-plus small surplus type of use that may be predicated for aboriginal times, it should have been capable of supporting, as will be shown, perhaps three to four times that number.

An additional fact brought out by the recent La Venta investigation was that the specific methods of maize cultivation used by the Torres family, with the foregoing qualifications, were in no way peculiar to them alone, but conform to the techniques generally used by peasant farmers in Southeastern Mexico.[6] The only significant variants from this pattern are to be noted in the densely populated alluvial flats along the lower Grijalva River, susceptible to more intensive cultivation, and the climatically different highland areas of Chiapas. This fact was taken by Drucker to warrant continuing his investigations in localities closer at hand to him, chiefly along the Pedregal and Playas Rivers, among people less well-off, or perhaps less ambitious, than the Torres, and who grow crops and live somewhat closer to the subsistence level than do the modern La Ventans.

While analysis of the full data is still in process, and complete conclusions are reserved for the final report, the major highlights of the study can be summarized briefly.

Types of milpas. Modern peasant farmers in the region classify milpas, depending on their frame of reference at the moment, according to one or the other of two criteria. One of these concerns the season of the crop, since two maize crops can be produced annually. The main crop is that produced in the "milpa del año,"

5 For convenient reference, 1 hectare equals 2.471 acres; 1 kilo equals 2.2046 pounds; 1 metric ton equals 1000 kilos.

6 In current regional usage, the "Southeast" usually refers to southern Veracruz, the Isthmus of Tehuantepec, and the states of Tabasco and Chiapas. Sometimes the Yucatan Peninsula is also included in the term, but more commonly it is excepted as being a separate entity, as indeed it is, culturally, ethnically, climatologically, and geomorphically.

planted in April, May, or early June, depending on the terrain. This crop receives the benefit of the frequent thunder-showers and hot weather of the summer months, and is expected to ripen about 110 days after planting. As the local name indicates, it is the principal crop of the year. The other crop is that of the "tonamil" or "tapachol," planted December to January, to take advantage of the rains of the end of the wet season, and which, it is hoped, will continue to grow and ripen during the dry season (February-May). This crop is a stop-gap as regards production; smaller areas are planted, lower yield is expected per hectare, and it is subject to greater hazards, such as severe drought, vermin damage, etc. One of the major differences in techniques between the milpa del año and the tonamil is that the debris from the felled bush for the former is burned off prior to planting to get it out of the way and to destroy at least part of the insects and weed-seeds, while the tonamil slash is chopped fine and left as a mulch to conserve soil moisture.

The other system of classification relates to type of bush cleared for the planting. "Montaña" (less commonly, "monte") is the local term for virgin jungle, the clearing of which is an arduous task involving the expenditure of 15 to 20 man-days per hectare. In pre-Columbian times, without benefit of steel axes and machetes, milpas made in montaña must have been still more laborious even though, as some writers have suggested, the bigger trees were probably killed by girdling and eventually gotten rid of by repeated burning. The complementary type of vegetation cleared for maize-planting is the second-growth bush known as "acagual."[7] After the montaña has once been cleared and planted, it is allowed to fallow, i.e. go back to bush, for a time and then can be re-cleared and planted again. The difference between clearing and planting montaña and acagual has not heretofore been stressed adequately in the literature on milpa systems. The acagual is easier to clear, not only because the plant growth is smaller in size, but because the second-growth consists almost entirely of soft woods. It burns off cleaner, making possible evener and more complete planting, as well as easier weeding and harvesting. Even when a clearing in montaña burns off fairly well, the farmer has to scramble over, under, or around the huge charred remnants of trunks, stumps, and snags of the forest giants. In addition, of course, a tonamil, since it is planted in unburned plant debris, cannot be planted in new-felled montaña. The modern milpero prefers, and beyond a doubt his pre-Columbian ancestor preferred, to work in acagual. He clears montaña only when his acaguales no longer suffice or when he wants to extend his clearings for pasture. Even many

7 The term "acagual" seems to mean scrub brush in general; it is used to refer to natural scrub, such as is sometimes found around swamps, but in reference to farming it always means second-growth.

cattlemen reserve tracts of soil favorable for maize, in the form of acaguales, and do not plant them to grass. It is, of course, the acagual that interests us here in connection with the cultivation-fallowing cycle and the amount of land needed per capita or per family for maize production.

Cultivation and fallowing. There is nothing particularly esoteric or mysterious about the cultivation-fallowing cycle in the region. Any local farmer can define it, and all informants questioned agree closely. One, two, or uncommonly, three crops are grown in succession on a given tract of land. The determining factor here is nature of the terrain. Steep slopes are rarely planted to tonamil—the soil dries out too much and the maize generally withers and dies. Low alluvial flats, excellent for the tonamil, are risky for the milpa del año because of the danger of summer floods. With these exceptions, two crops are usually made on a tract. Often a small clearing is made for the tonamil, then, after harvesting, it is re-cleared, extended to two or three times the area burned over, and planted to milpa del año. Similarly the more level and moist part of a milpa del año may be re-cleared (of weed growth and corn stalks) for a tonamil. Subsequently the tract is permitted to go back to bush for a period ranging from three to five years. Four years is regarded as an optimum, although five is also considered good. One informant who has planted certain areas several times after only three years of fallowing insists he notes a sharp decline in productivity. After five years the growth becomes too heavy for easy clearing, requiring too much ax work. Drucker observed one tract of acagual which informants agreed was twelve or thirteen years old that was about as costly to clear, in terms of man-days of labor, as average montaña. Thus, with a year of cultivation and an average of four years of fallowing, the milpero needs five times the area of acagual he normally plants to milpa del año to support himself; if he plants 1 hectare he needs 5 hectares, if he plants 2 hectares he needs 10 hectares, and if, as Don Sebastian states, when his sons were young men but still unmarried, working with him, he planted 6 to 8 hectares annually, he needed 30 to 40 hectares of acagual.

Measures, planting, and production. In this region of the "Southeast," only shelled corn is weighed by the kilo. Corn in husk (as it is usually stored, since the husk helps retard insect damage) is measured by the "sonte" (a local modification of Aztec "zontle," 400) of 80 "manos" (hands) that is 400 ears (80×5). The count is made only of large undamaged ears. Damaged ears and nubbins are separated on harvesting and reckoned by the sackful. The rule of thumb is that the average sonte should yield 50 kg of dry shelled corn. Exceptionally good maize will produce 60 kg; a modern hybrid with a large dense grain produces nearly 70 kg; inferior corn as little as 40. For planting, the seed corn is usually weighed

dry. The standard estimate, when fields are not regular in shape and not measured, is that 15 to 16 kg serve to seed one hectare of milpa del año (about 12 are planted to the hectare of tonamil). Don Sebastian uses an older measure: he estimates on the basis of a sonte of seed corn to about 4 hectares of milpa del año. This figures out about the same as the 15 to 16 kg estimate since the very largest ears are selected for seed. The corn is planted in holes 7 to 10 cm deep, punched in the ground with a hardwood digging stick. Five grains are normally dropped in the hole. The seed is not covered. The holes are made in rows, as straight as possible, an estimated meter apart (1 m between holes in each row and 1 m between rows). This means, of course, that each clump of five stalks of maize (if all the seed germinates, which it does not) grows in the center of a square meter. This planting can scarcely be termed dense. However, many informants insist that closer spacing produces an unduly high proportion of nubbins (small, poorly-grained ears) and few large ears.[8] We do not know whether this is because the clumps shade each other out, or whether the poor yield is due to soil poverty. Planted on meter squares, a good yield is reckoned to be from 18 to 20 sontes of good corn per hectare plus 100 kg or so of shelled corn from nubbins and damaged ears, or a little over a metric ton of shelled corn. A tonamil that produces 14 or 15 sontes is quite good indeed.[9]

Consumption. Figures on per capita consumption of corn are difficult to get. Almost every peasant knows how many manos of corn he or his wife gets down from the storage loft daily because the corn is counted, but of this amount he does not know how much he and his family eat in the form of tortillas, pozole (a combination food-beverage made by mixing heavily leached coarse ground corn with water), and pinole, and how much is fed to the hogs and chickens. Fortunately, however, it was possible to make a record in the case of three small households who possessed no or almost no livestock, and who for periods of several months had no maize of their own but purchased all they consumed. Family A consisted of a man, wife, a small boy of about nine, and a nursing infant. Family B consisted of man, wife, and a boy of six or seven. They also had four or five hens. Family C consisted of a man, wife and a two-year old youngster. All three families consistently purchased 10 manos of maize per week. Families A and B had access

8 Judd (1954, p. 6) notes that in the Chaco Canyon area "tassel ears" are common if more than five grains of corn are planted in one hill.

9 Chevalier and Huguet (1958, pp. 423-424) state that the Campeche-Tabasco-Veracruz area produces + 1000 kg of maize per hectare. Sr Luis Villa Carrión of San Andres Tuxtla, southern Veracruz, states that in this region of good soils maize yields about 1500 kg per hectare. Compare the present maize yield in the United States of 1600 kg per hectare. See also Kroeber, 1939, p. 146.

to small amounts of rice, yuca (sweet manioc), and sweet potatoes grown by a relative, although the amounts they consumed are not known to us. The two men were, in addition, very competent fishermen and regularly supplemented their families' diets with fish. Family C had access to little of such foodstuffs but regularly purchased beans, averaging nearly 2 kg per week. According to the 50 kg per sonte standard, maize consumed by all three families averaged 6.25 kg per week, or about 0.9 kg per day. Actually the maize was a little better than average in size, so that 1 kg per day was probably the normal rate of consumption. If we reckoned between 350 and 400 g per day for the adults, with the balance for the youngsters, we would, in all probability, have a reasonable per capita working figure.

Modern vs ancient consumption. Estimates on ancient maize consumption can be made only indirectly and with allowance for fairly large probable error. We do know that the modern peasant farmer in the region relies heavily on several foods not known to his forebears, particularly rice, sugar, lard, and/or comestible vegetable oils. Other post-Columbian foodstuffs—poultry (both meat and eggs), pork, beef (very infrequently), bananas, and the like—add some variety to his diet but are not ordinary staples. Without a shadow of evidence and with only personal opinion to go on, we hazard the guess that per capita consumption of fish and game is probably about the same today as anciently. The region, excluding cities and towns (or perhaps even including them), is much more sparsely populated than it was at Conquest times and probably earlier. If the ancient population was larger, there were more people to share each kill. Thus the ancients must have relied even more heavily than their modern descendants on such staples as maize and beans. Very probably such cultivates as squash, choyote, sweet potatoes, cacao, and tree-fruits, and perhaps yuca, came nearer to the staple category than they do now. It seems reasonable to increase our estimate on per capita daily maize consumption by about 50 percent, to about 600 g per adult, or 219 kg—say 220 kg for a round number—of maize per year.

Another point on which archaeology sheds no light concerns the quality and yield of the maize of the heyday of ancient La Venta. It may have been as good as present day unimproved "criollo" maize, or perhaps produced less. We know no way to offer a figure other than to hazard a guess on the conservative side. If the maize of that day yielded an average 40 kg per sonte, and the "good" hectare of milpa del año produced 15 sontes, the yield would have come to about 600 kg. If we allow for another 60 kg from the nubbins, we can guess at a hectare producing enough maize to feed three adults and/or sub-adults a year; 10 more sontes from the tonamil should increase the corn crop sufficiently to feed a family of five.

To allow a little more margin, let us add another half hectare for poor maize crops, beans, and minor plantings, even including a small patch of cotton for textiles and borders of ixtle for cordage, and, in good years at least, a little surplus to give as offerings for the priests and the artisans carving the monuments. Thus we have an average family of five supported, with a modest surplus, by 1.5 hectares under cultivation (apart from tree-crops). Under the acagual cultivation-fallowing system, each such "average" family would require 7.5 hectares of acaguales.[10]

If the entire island of La Venta had been cultivable and available, which it surely was not, it might have supported between 45 and 50 households. If, however, we deduct 50 hectares or so of clay ridges unsuitable for maize, and about the same amount of land dedicated to mounds, ritual enclosures, arrangements of monuments, and the like, we find there was barely room for 30 families, certainly far too few people to have provided a working force to construct the enormous ceremonial features which are known to occur at the site. This conclusion, we feel, supports earlier statements[11] that the resident population of La Venta when the site was being used must have been a small one.

Reference to the report on the 1955 excavations of the site of La Venta will indicate the magnitude of some of the individual construction projects. The feature called the Southwest Platform (a deep rectangular pit measuring 50 by 61 feet on a side and 24 feet deep containing specially selected clay fills, the jaguar mosaic "mask," and serpentine slabs) contained 13,650 cubic feet of stone in the form of serpentine slabs (over 1000 tons) whose source, while unknown, lies surely at a considerable distance from the site. Excavation of the pit, securing the stone and clay fill materials and placing these was a work project of considerable magnitude.[12] A second deeply buried feature (Massive Offering No. 2) comprised a single layer of dressed serpentine blocks lying on the bottom of a pit measuring 49.5 by 20 feet at a depth of 16 feet.[13] A third Massive Offering (No. 3) consisted of six layers of dressed serpentine blocks laid out in a rectangle 63 by 66 feet. This mass of stone amounted to 6237 cubic feet and weighs about 500 tons. This six-layer paving lay on the bottom of a huge pit which on the surface measured

10 The Popoluca who live just to the north and west of La Venta have been studied by Foster (1942). His information checks very closely with ours. Foster (p. 62) estimates a zontle (our sonte) at 125 pounds, a figure which agrees well with our 50 kg. Foster's figures for a family's daily maize consumption vary, but average slightly higher than our estimate for La Venta. The Popoluca average about 2.5 hectares of land held per person.

11 Drucker, 1947, pp. 2-3; *idem*, 1952, pp. 19-20; Drucker, Heizer, and Squier, 1959, p. 269.

12 Drucker, Heizer, and Squier, 1959, pp. 97, 99, figs. 26, 27.

13 *Ibid.*, p. 128.

77 by 77 feet and had been excavated to a depth of 13 feet. Total fill of this pit is in excess of 60,000 cubic feet.[14] The greatest of the La Venta stelae (No. 3) weighs about 50 tons. The improbability of a stone of this size and weight being carried or dragged supports Stirling's proposal that the La Venta columns, altars, and stelae were rafted to the site.[15] And such large-scale water transport demands a sizable labor force to fell the trees, make and load the rafts, and see them safely along their coastal and river journey.

All in all, in view of such facts as those just cited, it cannot be doubted that large numbers of workers, variously assigned to specialist tasks in quarrying, transport of earth and stone, excavation of offering pits, pyramid building and enlargement, stone dressing, and the like were organized and directed by centralized authority during the period of use of the La Venta site. Since such a corps of workers must have been much larger than the resident population of La Venta itself could have supported, we feel that there is substantial basis for earlier suggestions[16] on the probable sociopolitical organization of the La Venta culture group.

Recent investigation into the related matters of Mesoamerican settlement patterns, differentiation of types of urban settlement and their correlations with ceremonial centers, and the like[17] make the data presented here of special interest, since the site of La Venta proves the existence of a highly developed ceremonialism of basically Mesoamerican pattern at an early date (800-400 BC), and is clearly an example of a detached or isolated ceremonial center which was supported by a scattered (though politically organized) peasant population.

We hope in a fuller report, now being written, on the agricultural complex of La Venta Island to treat in more detail the probable numbers of workers involved in the construction of some of the larger La Venta site features and to make more concrete proposals on the ancient social structure.

Bibliography

Brainerd, G.
1954 *The Maya Civilization* (Southwest Museum, Los Angeles).
Chevalier, F., and L. Huguet
1958 *Peuplement et mise en valeur du tropique Mexicain* (Miscellanea, Paul Rivet, Octogenario Dicata, XXXI Congreso Internacional de Americanistas, Mexico, vol. 1, pp. 395-438).

14 *Ibid.*, p. 130.

15 *Ibid.*, p. 126.

16 Drucker, 1947, p. 3; *idem*, 1952, p. 231; Drucker, Heizer, and Squier, 1959, pp. 33, 267-271.

17 Willey (ed.), 1956 (chapters by Willey, Sanders, Shook and Proskouriakoff); Brainerd, 1954; Miles, 1957, 1958; Willey, 1956.

DRUCKER, P.
1947 *Some Implications of the Ceramic Complex of La Venta* (Smithsonian Institution, Miscellaneous Collections, vol. 107, no. 8).
1952 *La Venta, Tabasco: a Study of Olmec Ceramics and Art* (Bureau of American Ethnology, Bulletin 153).

DRUCKER, P., R. F. HEIZER, AND R. J. SQUIER
1957 *Radiocarbon Dates from La Venta, Tabasco* (Science, vol. 126, pp. 72-73).
1959 *Excavations at La Venta, Tabasco, 1955* (Bureau of American Ethnology, Bulletin 170).

FOSTER, G. M.
1942 *A Primitive Mexican Economy* (Monographs of the American Ethnological Society, no. 5).

HEIZER, R. F.
1957 *Excavations at La Venta, 1955* (Bulletin, Texas Archaeological Society, vol. 28, pp. 98-110).

JUDD, N. M.
1954 *The Material Culture of Pueblo Bonito* (Smithsonian Institution, Miscellaneous Collections, vol. 124).

KROEBER, A. L.
1939 *Cultural and Natural Areas of Native North America* (University of California Press, Berkeley).

MILES, S. W.
1957 *Maya Settlement Patterns: a Problem for Ethnology and Archaeology* (Southwestern Journal of Anthropology, vol. 13, pp. 239-248).
1958 *An Urban Type: Extended Boundary Towns* (Southwestern Journal of Anthropology, vol. 14, pp. 339-351).

WILLEY, G. R.
1956 *The Structure of Ancient Maya Society* (American Anthropologist, vol. 58, pp. 777-782).

WILLEY, G. R. (ED.)
1956 *Prehistoric Settlement Patterns in the New World* (Viking Fund Publications in Anthropology, no. 23).

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SOCIO-POLITICAL ORGANIZATION AND RECEPTIVITY TO CHANGE: SOME DIFFERENCES BETWEEN RUANDA AND URUNDI*

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THE NEIGHBORING African kingdoms of Ruanda and Urundi are so similar in many respects that they appear, when viewed from afar, to be virtually identical in all but minor details. However, those who know both countries well, recognizing that Ruanda and Urundi are more like each other than is either like any other culture, report impressions of several kinds and degrees of difference. The differences tend to be cumulative and to determine a cleavage that is most pronounced in respect to socio-political organization and related behavior.

An indication of the characteristics of the countries and the peoples will be given as background to description of the traditional political and social organization—of the feudal structures, the kingships, the caste-like social system in relation to political structures, and relevant details of the kinship system. Point by point comparison should reveal the extent of structural similarities and the nature of the differences. An analytic model will then be proposed to account for observed differences of political behavior in response to uniform influences from the Belgian trusteeship government, in terms of the differences noted in traditional socio-political organization.

I. GENERAL INFORMATION

Ruanda and Urundi are geographically contiguous and lie in the Central African rift valley in the region of the Congo-Nile crest. (Ruandans and Rundi living to the west in Belgian Congo, to the east and south in Tanganyika territory, and to the north in Uganda are not included in this study.) Ruanda and Urundi are among the highest-lying countries in the African continent, and their land surface is principally hilly. In general, altitudes tend to be higher in Ruanda than in Urundi. The Congo-Nile crest reaches a maximum of about 10,000 feet in Ruanda, about 8750 feet in Urundi, but most of the hills lie between 4875 and 6500 feet. Because of high altitudes, temperatures are low, although the region lies between one and four degrees south of the equator. The annual average tem-

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perature on the high central hills is 68° F. Characteristically for the equatorial belt, there are large daily but very small seasonal temperature variations. At the westernmost limits of the influence of Indian Ocean determinants of climate, the area has a rainy season from September or October to May, interrupted in the lower-lying hills by a short dry season in January, with the long dry season extending from May to the start of the rains.

Urundi, slightly larger than Ruanda, has an area of about 10,750 square miles, Ruanda of about 10,170 square miles. Population fluctuates about the 2,000,000 mark in each country. The population densities are the highest in Africa south of the Sahara. For 1955, the average in Ruanda was 227 per square mile, in Urundi 185 per square mile. Marked variation, fluctuating between about 70 and 380 persons per square mile, follows the uneven distribution of fertile farm land and pastureland.

The strain on land resources due to the high density of the human population is intensified by the high bovine population. According to 1955 reports, there are some 550,000 head of cattle in Ruanda, some 350,000 in Urundi, a decrease of about 8200 from 1949. Herds tend to be small, averaging one to five head of cattle, with only about one percent of the herding population having fifty animals or more. Holders of large herds are more numerous in Ruanda than in Urundi. With an average of less than half an acre of pasture per cow, pasture resources are also used for approximately 840,000 goats in Ruanda, 625,000 in Urundi, 240,000 sheep in Ruanda, 220,000 in Urundi, 55,000 pigs in Ruanda, 2,000 in Urundi. Thus, the density of human and animal population is somewhat greater in Ruanda than in Urundi. For both countries, the animals are counted as wealth, though their number constitutes a serious strain on the land.

Characteristically for the so-called cattle-complex cultures, Ruanda and Urundi place great and multiple value on the possession of cows. Minimally a source of milk, butter, and occasional meat, cows are important as bride-wealth and as the basis of a client relationship where cattle are exchanged against goods and services. In the past, they were also the basis of military-political attachments in the feudal system. Sheep and chickens have in the past served only ceremonial and divinatory purposes and into the present, together with all water and land wild life, continue to be generally taboo as food. Goats were used for ceremonial purposes and their flesh eaten by farmers, though socially sensitive farmers are reluctant to admit to the consumption of goat meat.

Considerations of ethnic differences in the populations of Ruanda and Urundi are of immediate relevance to the economic, social, and political systems. The mass of the population, approximately 85 percent, are Hutu. These are Bantu

farmers who share, by and large, the physical and cultural characteristics of other Bantu peoples in Central Africa, including the widespread hoe culture. Upwards of 10 percent of the population, and somewhat more numerous in Ruanda than in Urundi, are the Tutsi, Hamitic or Nilo-Hamitic herders. In a minority—1.32 percent of the total population—are the Twa, a pygmoid people, who are potters and either hunters or in the process of becoming settled agriculturalists.

The actual relationships among these three ethnic groups reflects their shared theory of race. All speak the same Bantu language, share a common kinship terminology, are subjects of the same kings and coöperate in a well-knit symbiotic socio-political-economic order. However, it is said that the Tutsi herders are inherently a superior race, the Hutu farmers their natural inferiors, and the Twa potters by nature pariahs. There is a caste-like arrangement which normally requires that marriage be within one's own ethnic division. However, Tutsi women have occasionally been given by the king as wives to men from the lower ethnic groups in reward for special services. These marriages and some informal mating between members of different ethnic groups tend to blur somewhat otherwise striking differences in physical characteristics. Average heights will give an indication of the magnitude of highly visible physical differences that reinforce the social separateness of the three groups. Ruanda Tutsi measure, on the average, 176.52 cm in height, Urundi Tutsi, 175.19; Ruanda Hutu measure 167.43 cm, Urundi Hutu 166.14; the Twa average 155.28 cm. Their nearest neighbors average about 163 cm.[1]

Not only occupations and social and political positions but also land settlement choices and diets tend to follow ethnic lines. The Tutsi herders seek out the higher hills, though, as members of the ruling class they are also thinly distributed through the predominantly agricultural lower-lying hills. The elaborate system of food taboos tends to restrict consumption of foods in proportion as an individual is high in the social scale. The publicly admitted diet of Tutsi is liquid, consisting of cow's milk and banana beer, though they actually consume meat, vegetables, and other solid foods. Milk supplies, however, are limited, since herds are small and milk production low, varying from a few ounces daily in dry season to between one and two quarts a day under optimal conditions.[2] However, cattle contracts result in some consumption of dairy products by Hutu and a quite general consumption of cereals and other vegetable products by Tutsi. Beef is the only meat the consumption of which is permitted by custom. Sterile cows and the majority of bull calves are slaughtered for food. The flesh of cows that die of age, accident, or disease is also eaten. Beef is accessible to both Tutsi and Hutu. Agricultural

1 Hiernaux, 1956, p. 35.

2 Biche, 1956, p. 269.

yields tend to be low, and periodic famine further reduces available food supplies. Insects, especially large winged termites, and grasshoppers when available, are also used for food by Hutu and Twa, though their consumption is vigorously denied by some Hutu. The Twa are free from the dietary strictures imposed on Tutsi and Hutu. They consume not only cereals gathered or cultivated, but also the flesh of antelope, wild pig, fish, goats, sheep, and whatever else they can procure. Though only rarely do supply and skill enable the Twa to indulge their freedom from the extensive food taboos, the principle permitting it reinforces their status as pariahs. There is, then, in general a severe problem of nutrition in the two countries, except at the top strata of society, complicated somewhat by the food taboo system. Some amelioration is being achieved through Belgian programs of erosion control, improved farming methods, and stock reduction.

II. HISTORICAL FACTORS

Indirect evidence indicates that the Twa were the first of the present ethnic groups of Ruanda and Urundi to occupy the land. They probably lived in what was, some centuries ago, forest land. It is thought that some time prior to the sixteenth century, the Hutu arrived and cleared forest for farmland. In so doing they pushed back the Twa, who were at all events probably not very numerous. In about the sixteenth century, it is further supposed, the Tutsi arrived with their herds to take up pasture land and then to utilize cleared farmland for pasture. Using their cows as a lever of economic and political strength and apparently without military contests of any importance, the Tutsi became warrior-rulers and the Hutu their serfs, the Twa relegated to pariah roles.

Ruanda appears to have become stabilized as a feudal kingdom earlier than Urundi. That the military organization of both kingdoms was effective is indicated by their success in preventing nineteenth century Arab slave traders from penetrating beyond the shore plains of Lake Tanganyika into the mountainous interior. There were, however, limited trade relations between Arabs and some chiefs, probably more in Urundi than Ruanda. The interior of Ruanda and Urundi was first breached by outsiders during the late nineteenth century intensive exploration of the sources of the Congo and Nile Rivers. (The southernmost source of the latter was not definitely located in Urundi until the 1930's.) Missionary activity and German military administration in the last decades of the nineteenth century met with vigorous resistance. In 1907 the Germans established Ruanda and Urundi as separate residencies, coincidentally with a change from military to civilian administration. They effected very few changes beyond establishing a small number of administrative centers and cutting crude roads to connect them. Their administra-

tion followed the principle of indirect rule, continued by the Belgians when they were assigned administration of the area at the termination of the First World War. In the 1920's, with the introduction of a full-scale European administrative organization, the period of effective contact with and change in response to the influences of outsiders began.

Historical information about Ruanda and Urundi prior to the twentieth century is scant and of questionable reliability. Hence, whatever is said about traditional institutions refers authoritatively only to the past half-century, though it would probably be correct for a considerably longer period. Also, despite the rapid rate of change since the 1920's, the principle of indirect rule has probably preserved the basic forms of institutions several centuries old.

III. TRADITIONAL POLITICAL ORGANIZATION

Hierarchy was the fundamental principle of socio-political organization in both Ruanda and Urundi.[3] The possession of goods, together with the right to distribute and to take them back at will, was the basis of hierarchical order.[4] Economic and political power was, thus, for all practical purposes, combined. Divine power was at the top of the hierarchy in the universe, for *Imana,* the creator and high god, was the source of all human power and goods. The *mwami,* the king, was by both religious and social criteria placed immediately below the deity as the most powerful of all human beings. Significant economic privileges were attached to the hereditary kingship. In theory, the king owned the entire country, its lands, cows, and people. These he distributed to his feudatories, reserving extensive estates and herds for his own use. In practice, however, the holdings of powerful feudal lords might approximate those of the king. The feudatories of the king in turn distributed goods to their vassals. The quantity of goods distributed measured the power of the grantor and at the same time determined the political power of the recipient in the economico-political hierarchy, in a diminishing scale to propertyless serfs and pariahs. Grants of land, serfs, and cows were normally inherited in the male line, the father's property distributed among his sons. The recipient and his heirs were under the protection of the grantor and his heirs, to whom were due fealty, obedience, military services, and various goods. Returns from successive grants down the hierarchical line diminished with the reduced quantity of goods at the disposal of the grantors. At the simplest level, the grant of a cow was at the basis of what was primarily an economic client relationship without political significance. Recent changes toward a money economy have been accompanied by a

3 Maquet, 1954, pp. 184-196.

4 Albert, 1960.

marked diminution, at the upper levels of society, in the socio-political and economic values of cows.

The grant of material goods formed the basis of what was in principle a personal relationship involving mutual esteem, affection, and concern. Those who received were the personal followers of those who gave, and they made gifts in return of beer, goods, and services. Herders owed the *ingorore,* minimally a cow given as annual tribute to the king to reaffirm fealty and to request continued protection from him. Loyalty did not pass up through the hierarchy in any well-defined way. In principle, each individual owed fealty to his king. In practice, each vassal was attached to his direct superior. In some cases the direct superior was the king himself, in others, the king's feudatories or those to whom they granted lands or cows, and in some instances a recipient was many times removed from the king through a series of diminishing grants. There was no territorial unity of holdings. Especially at the higher levels of the hierarchy, individuals held lands and herds that were scattered through various parts of the kingdoms. Grant-linked political loyalties formed a complex, personalistic web. Maintaining political order depended upon the personal loyalty created by the grants.

In its ideal expression, the superior-inferior relationship was phrased in kinship terms, the superior in the role of the benevolent father. However, the personal and emotional element in the relationships between lord and vassal and in cattle-client relationships tended to produce a high degree of instability and mobility. It was assumed that cows or other goods were given out of affection for the subordinate, who did as the superior wished out of affection. Changes of heart, particularly in superiors, were reportedly frequent. Moreover, the power to give was matched by an often-exercised power of withdrawal. *Kunyaga,* to take back, was the principal sanction used by the superior to ensure loyalty and a flow of goods and services from his followers. Cows, property, and serfs could be taken back as a result of failure to give desired military service or goods; or for failure to pay court by physical presence at the residence of the superior for suitably long periods at suitably frequent intervals; or as a result of violations of moral or social rules, e.g., the imminent motherhood of an unmarried daughter justified the confiscation of the father's property by his political superior. It was not unusual for the invented calumny of a rival to be responsible for the taking back of goods, nor was it uncommon for the individual who fell out of favor to be killed without prior indication of his overlord's displeasure. Where, through the blood-friendships contracted during military service or through access to court gossip, an individual received warning that his term of favor was to be terminated, he might succeed in escaping with or without his movable property, to offer himself to a new pro-

tector. With the new overlord, he would repeat the customary sequence of offering his services, paying court, requesting and in due course receiving cows or lands. Corresponding to the superior's withdrawal of his gift and protection, and not infrequently resorted to, was the inferior's secession, if he were displeased with his overlord. This involved voluntary physical removal from the scene, followed normally by the offer of services to some other superior. However, if the new lord were less powerful than the previous one, he could not protect his new vassal from punishment at the hands of the deserted superior.

Just as the economic and political structures were interdependent in the over-all organization in both Ruanda and Urundi, so too were the political and military. The contemporary plan of organization for governing the two kingdoms employs for the most part traditional terms. These, however, are now interpreted without the military significance characteristic of the earlier system and with the introduction of the concept of territorial unity lacking in the traditional system. A systematic account of the traditional military-feudal administration below the level of the king and his direct feudatories is easier for Ruanda than for Urundi. Describing the political structure of Urundi is made difficult by the variety of near-synonyms as well as regional variation in the definitions of terms employed for military and administrative ranks. There does not appear to have been a systematic correspondence between a given military rank or title and the administrative powers and responsibilities associated with it. However, military positions of captain, group captain, and line captain defined in a general way a descending political order for their incumbents. There seems to have been considerable variation at each level in the size of holdings, the numbers of persons controlled and the relationship to superiors. It also appears that some military ranks, especially at the lower levels, were without administrative significance. The high degree of variability in these matters is in keeping with the emphasis upon personal attachment between superior and inferior as the basis of the political order.

A relatively straightforward outline of traditional administrative organization can be constructed on the basis of family and residence units. These were, for all practical purposes, the lowermost support of the political hierarchy and the unit of military and economic levies. Extended households were the basic unit of society in both Ruanda and Urundi and continue as such in the present. These normally consist of an adult male and one of his wives and their children, a married son with his wife and offspring and, often, various visiting relatives, e.g., orphans or children left by departed wives after divorce. Within the enclosed yard, nuclear families occupy separate houses and operate as independent units for purposes of cooking, drawing water, getting firewood, and so on. However, herds are often

cared for in common, though individual ownership is clearly and explicitly defined.

There is no village pattern. The smallest social unit upon which political units were and are based is the neighborhood, *umuhana* (pl. *imihana*). In both Ruanda and Urundi, the *imihana* are close groupings of households, described in Urundi as those within hearing distance of the cry of alarm issued when there is trouble. Since density of population is determined by fertility of the soil, and since this is a highly variable factor, the number of households in a given neighborhood may vary from a handful to more than a dozen.

In Ruanda, the smallest territorial administrative unit was the *umurenge*, consisting of from fifty to sixty households. The head of one of the households was selected as chief of the *umurenge*, and he had the title, *umukoresha*. Each of these chiefs was responsible to the *batware*, chiefs of the cattle and of the land. The smallest unit for which a political rank existed in Urundi was the *umusozi*, literally "hill" but politically a collection of neighborhoods on contiguous hills. (In Ruanda, *umusozi* was used literally to designate a hill, not an administrative unit.) The hill-name served as a means to locate households and in administration was useful to the hill-captain, *ichyariho* (pl. *ivyariho*), in apportioning responsibility for the goods and services he was required to procure for his superior, the military captain, *mutware* (pl. *batware*). (The *batware* of Ruanda and of Urundi have the same title but different functions.) Traditionally the head of each household was responsible for providing the items demanded by the local administrators.

Territories of different extents were entrusted to the *batware* for military, political, and economic administration. Through their subordinates, they called up soldiers in time of war, assembled gangs of laborers for farming, construction, portage, etc., and collected grain, honey, and other foodstuffs as well as copper bracelets, iron hoes, spears, bows and arrows, wooden milk pots, baskets, and other products of artisans. In both Ruanda and Urundi, the king and princes awarded monopolies to selected families of Hutu, for example, for the production of bark cloth, honey, copper bracelets, etc., for the royal and princely households. Such families were exempt from agricultural or other menial labor. A percentage of the goods collected for their superiors was retained by the *batware*, who also had direct rights to various goods and services, e.g., agriculture and other labor from Hutu families in their administrative sectors. Adult male Tutsi, exempt from labor, were universally subject to military service and obligated to respond to their superior's call at any time and to provide their own equipment and servants.

Administrative activity was supplemented by the elders, *abashingantahe*, who had chiefly judicial and advisory functions. At the local level, they were informally convoked to settle family or neighborhood disputes. Groups of elders were also

attached to princely and royal courts in Urundi and formally convoked for the resolution of disputes not settled at the local level. Although their power was only advisory, the elders were in some cases highly influential in policy determination and political appointment.

At the level of the *batware* and above, the political organizations of Ruanda and Urundi diverge markedly. In Ruanda, all the *batware* were appointed by the *mwami* and were directly responsible to him. In Urundi, however, there was and continues to be a socio-political category unknown in Ruanda, viz., the *baganwa*, the princes of the blood. Although in Ruanda it was usual for the *mwami* to grant land to members of the royal family, the latter had no special rights or powers. However, *baganwa* were by hereditary right the ruling class of Urundi. Not only the *mwami* but also the *baganwa* appointed *batware* to lead their personal armies and to administer their lands. In principle, the armies of the *baganwa* were at the disposition of the *mwami*. In fact, as will be seen below, they were on numerous occasions used against the *mwami*.

IV. THE KINGSHIPS

The power of the *baganwa* in Urundi was the critical difference between the political organizations of the two kingdoms. The *mwami* of Ruanda was an absolute monarch who governed through a highly centralized organization and by principles that enabled him effectively to control his militarily powerful feudatories. The *mwami* of Urundi, in theory an absolute monarch, was with respect to the *baganwa* virtually *primus inter pares* in a decentralized state. For an account of the different principles operative in the organizations of the kingships, we cannot do better than to quote from a report of the Belgian government:

> From all time, and in Ruanda above all, politics of the *bami* followed a course of parceling out the country to infinity, since large homogeneous provinces could easily become centers of resistance. Instead of giving large domains to his favorites, the *mwami* preferred to grant his vassals separate hills, distributed about the country. Within the large fiefs, he carved out small dependencies where devoted persons who owed him everything found excellent observation posts from which to watch vassals who were very powerful and thus to counter-balance their influence. Besides, he encouraged rivalries by giving to one [vassal] administration of Hutu and lands, to the other, authority over the Tutsi and the disposition of cattle. Finally, he drained off the power of great lords by making of his capital a center where chiefs came to pay court. During this time their influence became weaker back in their provinces. Returned to their homes, they could scarcely reëstablish their authority when fear of losing favor with the *mwami* pushed them towards him again. Musinga [deceased father of the present *mwami* of Ruanda] was surrounded by a numerous court. Rivals met there,

each fearing to surrender the ground to the other, and on the divisions among the powerful vassals, personal power was forged.

The situation was different in Urundi. Here, as in Ruanda, power is a family affair. But in Urundi the family of the *mwami* possesses a special and separate existence. It is united by strong bonds and enjoys a special status. All its members, whatever the branch to which they belong, have the generic name, *baganwa*. In place of the policy of splintering to infinity pursued by the *bami* of Ruanda, those of Urundi sought on the contrary to reconstitute periodically extended blocs to the profit of their sons. These, placed as often as possible in distant provinces, were the strongest support of the *mwami*, as much against enemies from outside as against possible revolts of the princes of an older branch.[5]

The kingship in Ruanda was not only more centralized but it was also more conservative and more subject to control by custom than that of Urundi. The *abiru*, court historians, of Ruanda were empowered to enforce upon the *mwami* action in accordance with received rules laying various restrictions on him. The *abiru* preserved the genealogy of the Ruanda dynasty, which goes back to what must be legendary times. Urundi has no court historians to conserve and perpetuate custom. On the contrary, in Urundi it is said, each king makes custom anew, and the princes tended to assume the prerogative for themselves as well.

In both countries the traditional conception of the *bami* linked their personal well-being to the well-being of the country and the people. The *bami* were supposed to drink poison when they became gray-haired. The historical circumstances of the death of the *bami* are shrouded in secrecy and covered over with legend. Available accounts of the distant and recent past suggest that the theory of royal self-destruction was never put into practice. However, the legends report violent deaths for many of the *bami*.

Ceremonies by means of which the *bami* gave their blessings to the people confirm the view that they had powers not given to other men. For example, the *muganura*, the ritual eating of sorghum, was performed in Urundi in the month of December. It included a fertility rite and signalized royal permission to the farmers to plant the sorghum. It was believed that the sorghum would not yield well if this ceremony were not performed by the king. The ceremony of the same name in Ruanda is celebrated in June or July as a harvest rite.

While the *bami* are accounted in all respects superior to all other men, they are not characterized as actually being deities. Sacred in some respects, the *bami* of Ruanda and Urundi were primarily occupied with the military, political, and economic spheres, that is, with practical manipulations of royal power, conceived in terms of military force, economic wealth, control over land, and skill in the

5 Translation: *Rapport*, 1956, p. 8.

effective distribution of wealth to military leaders whose personal loyalty determined the security of royal power.

The question of legitimacy of heirs to the throne appears to have been a troublesome one. Both in Ruanda and Urundi, it is said, "The king must be the son of a king." Furthermore, tradition stipulates, that son of the king is to succeed him who is born holding in his hand the seeds of all the food plants that grow in the country. In neither kingdom were these requirements taken very seriously by those who enjoyed sufficient military power to challenge them.

In Ruanda, the royal succession procedure was complicated by the supplementary rule that from among the several wives of the king, one should be designated queen-mother in advance of choosing the next king. For the sake of the advantages that would accrue to the maternal clan of the king-to-be, there was extensive interclan intrigue and conflict. Interference with the royal succession was within the power of the clans. For example, the father of the present *mwami* of Ruanda became king despite the fact that he was not the properly designated son of the previous king. Although he was the son of the previous ruler, he was not the son of the woman designated as queen-mother. When the latter died, the substitution became possible. The king designated another wife to act as queen-mother, and she succeeded in having her son, not the properly designated son of the original queen-mother, made king. The king of Ruanda shares with the queen-mother the absolute power of ruling. This tends to consolidate royal power, if only because of the interest in a son's political welfare characteristic of Tutsi mothers at every social level and the dependence of the mother's political influence upon her ability to influence her son to give her the wherewithal to attach followers to her. Whatever increase in intensity in interclan intrigue the institution of the queen-mother entails, it reinforces the power of the ruling clans against any challenges from other influential clans.

In Urundi, the queen-mother has little other special distinction than the right to burial in a cemetery reserved exclusively for queen-mothers and the special favors due a favorite wife, for example, more jewels, more cows, and a larger estate on which to live. The mode of selecting the wives of the king was an influence for weakening royal power. The wives of the king were selected from a dozen so-called "very good" Tutsi families. Not infrequently members of these families had sufficient power based on cows and lands acquired through giving brides to previous kings and princes to challenge royal authority. This, like other such challenges, was associated with the great instability in the traditional pattern of royal succession.

As each king of Urundi came to the throne, every existing rank in the royal family experienced a downward move. One entire branch of the family was demoted

from the status of princes to *bafasoni,* nobles. The newest branch of the royal family—the sons of the reigning king—assumed as a lineage name that of their father's royal name. Only one branch of the royal family could have the name, and this rule automatically disqualified from having the name and being considered in the royal family those who bore the name through kinship with the previous king who reigned with that name. Four names, assumed in succession, determine the branches of the royal family. In order, the names of the kings of Urundi are Ntare, Mwezi, Mutaga, and Mwambutsa. The offspring of the first Ntare, called Aba-tare (the people of N-tare), were *baganwa* throughout the reigns of the next three kings. When the second Ntare became king, the Aba-tare descended from the previous Ntare ceased to be *baganwa.* They assumed names taken from more immediate ancestors than the king and became nobles of very good family. In the same way, the Ab-ezi who were offspring of the first Mwezi ceased to be *baganwa* when the second Mwezi became king, and so on for the offspring of the first Mutaga and Mwambutsa, as the second rulers of those names became kings. The present king, grandson of the second Mwezi and son of the second Mutaga, is the second Mwambutsa. His sons are Aba-'mbutsa. He and his brother are Aba-taga, and the king's brother's descendants will continue as Aba-taga until the third Mutaga becomes king. None of them will be in line for the kingship. When the next king comes to reign, he will be Ntare III, and consequently, the present generation of Aba-tare will pass out of the class of princes into the nobility. Resistance to this social and political demotion, though in principle hopeless, was often part of the disorganization and violence that accompanied the accession of a new king. There was vigorous contest of royal authority, not so much of the new king's as such, as of the rights of his close relatives to take over the provinces and privileges of the close relatives of the previous king. The situation seems not to have been improved by the practice of installing the new king while he was still a child and constituting his uncles a regency. It may have been intended that the regents would effect a peaceful transfer of authority and power from its own to the newly constituted highest-ranking branch of the royal family. Instead, however, there was considerable fighting, and some of the uncles of the king used their power as regents to further the interests of their own sons, at the cost of the wealth and power of the new young king. The names taken by successive kings of Ruanda are Cyilima, Kigeli, Mibambwe, Yuhi, and Mutara, assumed at accession with far less disturbance than in Urundi.

In both Ruanda and Urundi, then, the rules of royal succession were sources of instability at the top levels of the political hierarchy. In Ruanda, however, conflict took the form of interclan competition prior to the new king's birth for

the choice of the queen-mother, whose position strengthened royal power. In Urundi, the conflict centered on conflicting claims of branches of the royal family expropriated by the accession of a new king, and the institution of the queen-mother proved to be an additional source of challenge to the effective authority of the king, since the relatives of the king felt free to contest his and his successor's authority.

The personal dependence of vassals upon the kings—despite the formal principle making the relationship between inferior and superior hereditary—created further strains and difficulties at the accession of new kings. The interests of holders of land under the previous king were left unprotected. Not only the principal feudatory but also all his dependents on his lands were obliged to make way for new grantees. Their moving off to find new lands created a disorganizing current. The rule of one year of mourning for a king, generally respected by the populace, during which no work could be done on farms or elsewhere, contributed to making the transitional period to the reign of a new *mwami* one of exteme dislocation and disruption of life throughout the country. In Urundi, when a new political superior was installed, those holding land under the previous incumbent might, on payment of a cow for safe passage, leave the territory to accompany the displaced prince, taking their cows along. Or, they could present a cow to the new arrival as a token of submitting to him, i.e. transferring allegiance to him. For at least a century prior to the arrival of the Europeans, Urundi was the scene of long and exhausting wars, during which the close relatives of the new king attempted to wrest from the sons and other relatives of the previous king the lands they had been holding. At the turn of the twentieth century not fewer than three attempts to oust the legitimate king were made. Some of the battles of the *abamenja,* revolutionaries or traitors, were fought in the royal provinces and endangered the person of the *mwami.* The success of the legitimate king over his cousins and uncles seems to have depended largely upon his inheritance of substantial wealth by means of which he could procure a numerous army.

The stronger control exercised by the king in Ruanda seems to have reduced considerably the risks to the new king of effective challenge to his authority during the change-over. The frontier provinces of Ruanda were difficult to hold, but they were kept under effective control. The wars of Ruanda were directed primarily outside the country and were principally cattle raids, e.g., on the Shi on the western shore of Lake Kivu and on the Urundi provinces at the unstable common frontier. The latter wars resulted in the transfer from Urundi to Ruanda of a large frontier province.

The strength of the two kingships was much affected by the different directions

of their wars. For Ruanda, the return of victorious war leaders consolidated the royal power by increasing the royal treasury and thus putting at the king's disposal new lands, cows, and other goods for distribution to his successful feudatories. Victories also confirmed the psychological attachment of the Tutsi to their king. Returning warriors contributed to the royal drum the severed male organ of the enemy and were feted at court as loyal and brave subjects of the king.

The wars of Urundi not only failed to enrich the country and failed to reinforce sentimental links of loyalty to the king, but rather had the opposite effect. Wars between princes or their military captains tended to result merely in cattle changing hands during cattle raids. In some cases the entire male line of a defeated captain might be wiped out and the cows taken by the victor. A diminution of the total herds of the country resulted when defeated captains succeeded in taking their herds with them when they left Urundi. It was not always clear whether a battle between princes or military captains was a simple cattle raid or a more deadly fight over succession. Only very rarely did the circumstances of the fighting involve the emasculation of the enemy and the contribution of the trophy to the royal drum. Many of the cattle raids were private affairs between competing princes or military captains, all of whom might have their warriors duly registered with the king. These were sporting affairs, not necessarily fatal to the participants, but certainly not a contribution to peace or to the security of royal power.

On the arrival of the Germans at the turn of the century, the *mwami* of Ruanda benefitted by the military power of the newcomers to consolidate his frontiers and to reinforce his control over his powerful frontier vassals. Old men retain highly favorable impressions of the Germans as "real men" who were powerful and fearless warriors and who knew how to obtain obedience.[6] By contrast, in Urundi, admirers of the Germans are far outnumbered by those who remember them with distaste and disapproval. The policy of the Germans in Urundi vacillated between support and suppression of the revolutionaries against the *mwami*. Shortly before the Belgians were given administrative responsibility for the area, the German officer in charge extended recognition simultaneously to three kings of Urundi. Presumably intending to "divide and conquer," the German officers had little understanding of the already weakened state of royal power.[7] Shortly after this difficult time, the Belgian administration ascertained the legitimate claimant to the throne and exiled the others. Thus, the effects of early European occupation were to reinforce the preceding conditions of progressive centralization of royal

6 I am indebted to Mr Ivan Reisdorff, of the Belgian Colonial Service, for information about Ruandan attitudes towards the Germans.

7 Ryckmans, 1953, p. 20.

power in Ruanda and progressive decentralization and instability of royal power in Urundi.

Royal power, then, is differently conceived in Ruanda and Urundi. Both have the same title of *mwami* and the same symbol of royalty, the royal drum, *ingoma*, in Ruanda named Kalinga, and in Urundi, Karyenda. There are in addition in Urundi, but not in Ruanda, small drums said to represent important princes and a large number of drum corps, averaging about thirty each and numbering in all about one hundred and twenty drums, maintained by each of a large number of princes. Theoretically, all the drums are at the disposal of the king. However, the princes and others have on occasion tended to regard the drums and the military force they represent as very much their own. Symbols only, the drums nonetheless show in another form the contrast between the highly centralized Ruanda kingship and the diffusely distributed and uncertain power of rulers in Urundi.

V. SOCIAL STATUS AND KINSHIP IN RELATION TO POLITICAL ORGANIZATION

The existence of the *baganwa* in Urundi not only affects the political structure directly but also indirectly as an element in the social hierarchy. Four caste-like groups are distinguished in Urundi. In descending order of social superiority-inferiority, they are the *baganwa*, with the *mwami* at its apex, the Tutsi, the Hutu and the Twa. Only the latter three are distinguished in Ruanda. In both countries, persons of different social ranks do not drink from the same drinking tube; persons of higher status are served earlier than their inferiors; lower status persons may not look on while a superior eats or drinks; and marriage is largely though not strictly endogamous for each caste.

In Ruanda, the Tutsi are unequivocally the political and social superiors of all others. When Hutu or Twa were found worthy of appointment as chiefs, the *mwami* of Ruanda, in providing them with Tutsi wives, was empowered to declare their descendants Tutsi. The concept of caste had chiefly a social meaning. For any individual, political and social position in the hierarchy were at the same level. In Urundi, Hutu also received appointments as *batware* and were also given Tutsi wives, but their offspring could inherit only the family name of the Hutu father. Rundi who knew that in Ruanda Twa had been given Tutsi wives were deeply shocked by the phenomenon. There are no known cases in Urundi of Tutsi wives being given to Twa, and the occasional intermarriages of Hutu with Twa are concealed as shameful. If a Tutsi should marry a Hutu woman, he would probably be declassed and his sons unable to find Tutsi wives. The narrow racial inter-

pretation of caste in Urundi resulted in inconsistencies in the political and social ranks of Hutu appointed to administrative positions. Appointment of a Hutu administrator in a Tutsi region caused considerable resentment, and many Tutsi refused to accept the political authority of a social inferior, withdrawing from their land until the Hutu should be removed. When Hutu were appointed as *batware* in Ruanda, they were usually put in charge of farmers, not of herders, so that ethnic differences could not give rise to friction and distract the chiefs from their business of looking after the king's interests.

It was not easy, then, in Urundi to say at a given moment whether or not a particular Hutu was completely the inferior of a particular Tutsi. A brave Hutu warrior or successful seer, granted cows and a captaincy by king or prince, might be the political and economic superior of a Tutsi and the latter dependent upon his social inferior. Hutu families that enjoyed monopolies as suppliers to the king or princes were able to enrich themselves by means of their opportunities to meet with their superiors and to endear themselves to them. Poor Tutsi sometimes served as herdsmen to wealthy Hutu, on occasion giving their daughters in marriage for the sake of bolstering the failing family resources. There was a strong tendency for Hutu who had access to the princely or royal courts to take on the distinctive speech, manners, and attitudes of the Tutsi and of the *baganwa*. However, neither wealth nor intermarriage could enable even the most distinguished Hutu to drink out of the same drinking tube with any but the most degraded Tutsi. Tutsi not in positions of power seemed to be particularly sensitive to these distinctions. The *mwami* and *baganwa* were socially and politically apart from and above the ethnic divisions and appeared little concerned about the inherited social positions of their subjects, except for contracting marriages.

Differences in the kinship system are another point of contrast between the two kingdoms. In Ruanda, there is a system of patriclans, thirteen in all, each having its clan symbol. Each clan is subdivided into patrilineages and each patrilineage has a name. Both clan and patrilineage names are shared by the three ethnic groups. Some patrilineal sub-groups are designated *inzu*, literally "house," to refer to a man and his male descendants, but use of this term is not general. *Ubwoko* is the word used in Ruanda to refer to the patriclan, but it is used very differently in Urundi to refer to race, that is, to Tutsi, Hutu, and Twa. In both countries *umuryango*, literally "door," refers to the nuclear and extended family and to the patrilineage, context indicating which unit is intended. In Ruanda, there is a preference for clan and lineage exogamy, but there is no absolute taboo on marriage with an individual of the same clan and lineage name. With the exception of cases where the *mwami* provides a Tutsi wife for a socially inferior male, marriage restrictions are

based primarily on caste: Tutsi marries Tutsi, Hutu marries Hutu, and Twa marries Twa.

There are no clans or clan symbols in Urundi.[8] There are lineage names for over two hundred widely extended patrilineages. The names, however, do not necessarily signify kinship relationships. Lineages are classified as *baganwa*, Tutsi, Hutu, or Twa. Only a few names overlap among the three ethnic divisions. The family of the *mwami* and *baganwa* most nearly resembles a clan, but the pattern is limited to the royal family and no special terminology exists to describe the structure of the royal family. However, a similar process of fragmentation into new patrilineages occurs in other lineages, often following family quarrels. By this and other means, new names are from time to time added to the roster which start as *inzu*, i.e. as primary patrilineages which have seceded from the original kinship group, but marriage rules forbidding certain combinations persist for the customary five generations. Some branches of families seem also to die out from time to time, but the number of new ones that become established seems to overbalance the losses. The current census shows names for eighty-eight Tutsi lineages, about one hundred Hutu lineages, and thirty-eight Twa lineages, in addition to the royal family and its constituent lineages.

Marriage rules in Urundi are governed, as in Ruanda, by a rule of endogamy within racial-caste groups. In Urundi, however, social rank within the three caste divisions further restricts the possible mates for marriages. Tutsi lineages are divided into two major divisions, Abanyaruguru and Abahima. The former are subdivided into families ranked as "very good," "good," and "neither good nor bad." Hima families are similarly classified but include, in addition, "bad" families. It is from the "very good" Tutsi families that the king and princes take their wives and young boys to milk their cows. The privilege of milking is a semi-ritual basis for class distinction: social inferiors are not permitted to milk. Although they are classified as Tutsi, the Hima may not milk for the king or for good Tutsi families, nor may their women be taken as wives by the royal family or by Tutsi classified as Abanyaruguru. Rather, Hima families intermarry among themselves.[9]

8 In the literature on Urundi, regular reference is made to clans. However, careful inquiry failed to reveal either the concept or associated names or animal symbols, all of which are found in Ruanda. It may be that the word "clan" is used by some writers in lieu of "extended family" or "patrilineage." For example, in the first known written account by Hans Meyer, *Die Barundi* (Leipzig: Otto Spamer, 1916) the term *umuryango* is translated as clan, and the term *umuziro* as totem, but the latter means any taboo at all, whether related to kinship, food, or other matters.

9 The use of the designation Hima presents a peculiar historical problem, in view of the currency of that name for several groups of herders in the lacustrine Central African region. Hima are found in north Ruanda, Ankole, and elsewhere. No explanation for its peculiar use as an endogamus subdivision of Tutsi herders in Urundi can be offered.

Hutu and Twa lineages are also ranked from "good" to "bad" and preferred marriages are those between persons from the same micro-social level. There is a tendency for individuals from bad families, whether Tutsi, Hutu, or Twa to conceal or to lie about their lineage names.

There are only two or three differences in the list of kinship terms for address or reference between the two countries. Also, in Ruanda, spirits of deceased relatives are referred to as *aba-zimu,* the prefix form used only for human beings, whereas in Urundi the plural used is *imi-zimu,* indicating that ancestral spirits are not in the same class as living human beings. The most striking difference in the rules of kinship is in a rigorous Urundi taboo not known in Ruanda that forbids a father to enter the house of his daughter, or a daughter of his brother or sister, once she has been married. Though the kinship terms and rules are much the same between the two countries, the structural difference associated with the presence of clans in the Ruanda system further supports the view that it is generally more centralized in organization and tends to maintain symbolically important bases of social cohesion.

In both countries the father of each nuclear family selects from among his sons a favorite, *umutoni,* who will be his chief heritor and will, after his death, become the chief authority in family affairs. There is no rule of order of birth but only the free choice of the father to decide which son will be the favorite. Rarely does the inheriting son exercise power equal to that of the father. It is not unusual for the sons not designated favorite to scheme to discredit the favorite in order to replace him or to band together to harm him. Since the father customarily chooses his favorite son early, there is a long history of sibling rivalry. The appearance and occasionally the reality of fraternal amity is maintained largely by the father's authority. After his death, it tends to dissolve into permanent and often acrimonious disaffection among brothers. Physical departure from the paternal estate and fratricide also occur. Division of property is the usual core of the disagreement, though no doubt more profound psychological analysis would be required to account for the phenomenon in its entirety. In the past, active feuds between groups of a man's sons by his different wives were not unusual, especially among the Tutsi. In the current scene, legal and social conflict have replaced armed combat.

Traditionally, competition among the wives of a man followed a similar pattern. The favorite wife attempted to gain for herself and for her sons the best and most numerous cows, the best and largest property and the greatest number of laborers and servants, as well as the lion's share of clothing, jewelry, and other personal goods. At the same time, less favored wives attempted to unseat and to

replace the favorite by discrediting her, and there were frequent accusations of resort to poison and witchcraft to destroy the favorite. By and large, the plural wives of Hutu were more harmonious in their relations. Thus, while the Hutu have the same formal kinship system and marriage rules as the Tutsi, family life is not subject to the same strains. Their relative poverty, especially in regard to cattle and usually in regard to political power also, and their usual position as serfs seem to eliminate the chief object of Tutsi intrigue and competition, possession of goods. The Hutu practice of housing two or more wives under the same roof is considered impossible for Tutsi, because of the competitiveness and proclivity for vigorous hostile action of their women. Legislation against polygamous marriages and conversions to Roman Catholic Christianity have shifted strains in husband-wife relations from those generated by jealousy among plural wives to those generated by adulterous relationships and illegitimate children.

Familial ties enter importantly into political and economic affairs. The relationships based on feudal grants are heritable, though the grant is always subject to withdrawal by the grantor and his heirs. If the relationship has been satisfactory, a man who has received cows or political position will present his son to his overlord after training him in correct behavior and the techniques of asking for cows and lands. Overlords in the upper classes not infrequently provide suitable wives for their faithful young followers. Wives were important in the political scene. They could use their not inconsiderable social talents and intelligence to endear their husbands to their powerful neighbors and superiors. They sometimes acquired followers for themselves on the strength of gifts of cows cajoled from or freely given them by husband or son. They also recommended or else passed judgment on candidates for the favor of their sons or husbands. They attended carefully to the details of court gossip to know how the wind was blowing for their menfolk. If they were displeased, they could effectively bring about the political eclipse of an inconsiderate spouse by inventing or reporting unfavorable gossip to the overlord.

The pattern of interpersonal relations in the family and in life at the princely or royal courts and at the residences of men of wealth and position is essentially the same. Each person in a position of authority and wealth selects his *umutoni,* and there is considerable competition for the role of favorite. At the court or in the wealthy house, the favorite serves as an intermediary between the superior and his inferiors, i.e. those who want to ask a gift of him. The favorite is entitled to gifts from petitioners in return for the promise to obtain for them an audience with the superior. Competition for the favor of the favorite is part of court life. Those who consider themselves sufficiently clever will not hesitate to scheme and bear true or false witness of the defects of the favorite to his overlord in the hope

of replacing him. The favorite has the numerous privileges of intimacy and receives many gifts, but his tenure is entirely dependent upon the pleasure of his superior. Flattery, complete subservience to the superior's wishes, obedience to his every command—even to murder or perjury—and complete discretion about what one knows or has seen, are the minimal qualifications for the position of favorite. In each class of superior-inferior relations—father and children, husband and wives, lord and subjects or in the cattle client relationship—the prominent factors are personal attachment; obedience and docility from the inferior; competition among inferiors for the favor of the superior, understood as gifts of material goods in the last analysis; intrigue to displace the favorite; a general fear of calumny and witchcraft as instruments of hostile action; and in general, on the part of the superior, the right to free exercise of his wishes, without restraint from rules assigning priority or providing privileges or rights for those who are his inferiors, the limits set by dependence upon the services or goods provided by the inferiors, and by the power controlled by the inferiors. The pattern is much the same in Ruanda and Urundi.

VI. CONTEMPORARY SOCIO-POLITICAL BEHAVIOR

The slightly greater numerical preponderance of Tutsi and the clear social superiority and political dominance of the Tutsi in Ruanda as compared with Urundi provide a basis for a simplified description of a difference in "national character." It is said that Ruanda is somewhat more "Tutsi" than Urundi. This may be taken as a summary of observations of behavior in accordance with the Tutsi ideal model of behavior. In relations with each other and with Europeans, the Tutsi tend to maintain a high level of pride, aloofness, self-control, dignity of bearing, and attention to elegance of appearance and language. There are also expressions of a highly developed sense of superiority to all others and, probably related to it, an air of great self-confidence. The Tutsi ideals appear to be somewhat weaker in Urundi, though many of the herders guide their conduct by them. The *mwami* and *baganwa*, socially and politically above all others, tend to temper the Tutsi model with at least occasional displays of warmth, expressiveness, and informal friendliness. Conventionalized gestures of feudal subservience expected of persons at the lower levels of society seem in Ruanda consistent with expressions of independence and a sense of the importance of the self, even in the Hutu and certainly in the Twa. Rundi below the royal or princely level give an impression of greater servility, mixed in various proportions with sullenness, resistance, and resentment. An attitude of hopelessness in the face of even the smallest threat is widespread. Fear, as a constant ingredient of relations among equals and with

superiors, and mistrust of all are common in both countries but somewhat more pronounced in Urundi.

The behavior of the Tutsi of Ruanda appears to accord better with European standards of conduct for aristocrats than the Urundi alternative. It is possibly as a result of this that there is in Ruanda better communication with Europeans engaged in administrative or missionary activities. Also closer to the European value system is a consistently greater intellectual quickness for "book-learning" in Ruanda than in Urundi. This shows itself most clearly in different degrees of interest in and ability to learn European ways—in the school system, in religious instruction, and in response to economic or political reforms proposed by the Europeans. It is not difficult to find competent and well-trained candidates for clerical work and for interpreting among the Ruandans, but it is exceedingly difficult to find properly trained persons for this type of work among the Rundi. The over-all impression is of more rapid and more complete Europeanization in Ruanda. In general, the Ruandans seem to appraise what they see of European culture as holding out to them the opportunity to increase their prestige and power, and they tend to act to make it as much as possible their own. For many Rundi, the new institutions and ways seem to be received as new impositions from above, accepted out of necessity rather than welcomed or pursued, avoided as far as possible. There are, to be sure, exceptions to the general rule in both countries. There are hard-shelled opponents of European ways in Ruanda, especially though not exclusively in the lower levels of society. There are, on the other hand, highly progressive Europeanized Rundi, especially though not exclusively at the upper levels of society.

The people of Ruanda are far more aggressive and demanding in relation to the Belgian administration than those of Urundi. Ruandans not infrequently write strong letters of complaint or demand to European officials, even going so far as to write directly to the Belgian king. Thus far, Rundi do not engage in this activity. Ruandans are more frequently the authors of statements published in newspapers in which they press vigorously and aggressively for their own interests or criticize those of whom they disapprove or with whom they disagree. The *mwami* of Ruanda, at the top of the hierarchy, pressed publicly for his country's advantage.[10] Perhaps more interesting, however, was the appearance of a let-

10 In July 1959 the *mwami* of Ruanda died without heir, an event unprecedented in the long history of the kings of that country. He has been succeeded by a younger half-brother. All references in this paper are to the recently deceased *mwami*. There was an outbreak of violence in Ruanda in November, 1959. Although malaise in the year of mourning for a *mwami* is usual, the rebellion of Hutu against Tutsi and the involvement of the violence with negotiations for independence are novel developments in Ruanda's history.

ter in a newspaper in which a Ruanda Hutu demanded equality of Hutu with Tutsi. There is in Ruanda a far more active and general participation in political life at an overt level. More Ruandans than Rundi voted in the first national elections in 1956, and more people complained openly when they believed the elections were not conducted properly. By and large, Ruandans show themselves very much disposed to look out for their own interests in regard to political position and economic well-being and also in respect to their reputations as private citizens.

There is in Urundi as in Ruanda a great and absorbing concern with political power, economic well-being, and a good name. However, when complaints are made or needs or desires stated, they are "not for publication," though there may be the hope of an offer of assistance from the individual to whom they are confided. Only when a superior—European or African—falls from power will a Rundi risk coming forward to press charges against him, and when the removal from power occurs, grievances twenty years old will be brought into the open. A questionnaire prepared by the government to procure suggestions for improving elections, on which the answering individual had to identify himself, was scantily responded to in Urundi by comparison with Ruanda. However, there was a response of more than fifty percent to a questionnaire prepared for a section of Urundi in which respondents were permitted to remain anonymous. The Rundi are deeply interested in their well-being but used either to endure in silence, to petition for help in private, or to press their suit by informal, unpublicized means, when they are not satisfied.

Ruanda's receptivity to European ways has to be viewed in the light of the continuation from pre-European times of a high degree of conservatism and devotion to traditional symbols. In Urundi, the less positive orientation to European ways coexists with a continuation from the past of a far smaller concern for the preservation of tradition. Symbolic of the generalized contrast are some differences in the preferences of the two kings. Both drive cars of American manufacture, speak French, wear European clothing for everyday affairs. Both are active, modern administrators of their countries, though both maintain residences in many parts of their kingdoms, in the tradition of their fathers. At public ceremonies, however, the *mwami* of Ruanda wears the flowing robes and traditional headdress of his royal rank, whereas the *mwami* of Urundi wears a European uniform and military cape. Yet, though the *mwami* of Ruanda has been converted to Christianity, the *mwami* of Urundi refused baptism. The combination of relatively greater acceptance of European culture with conservative traditionalism in Ruanda and of lesser receptivity or outright resistance to European ways with a lesser degree of traditionalism in Urundi appears at first glance paradoxical.

Attention to some theoretical problems of the relationship of traditionalism to reactions to external cultural influences is in order.

VII. SOCIO-POLITICAL ORGANIZATION AND RECEPTIVITY TO CHANGE

Differences of socio-political organization and of responses to European influences between Ruanda and Urundi are similar in pattern to those observed to hold between the strongly traditionalistic Zuñi and the relatively less traditionalistic Navaho of the southwestern United States. Even taking account of variation in actual content and degree of contrast between the Zuñi-Navaho case and that of Ruanda and Urundi, we are nevertheless confronted in both instances with greater actual adoption of American or European ways in the more traditionalistic than in the less traditionalistic member of each pair.

In the people of Ruanda, there have been noted great conservatism; attachment to tradition and its conscientious preservation through institutionalized knowledge specialists; a high degree of national pride linked to determined and aggressive self-interest; and a relatively rapid and positive change towards European ways in politics, language, economics, and other institutions. To some degree and in some form, conservatism, traditionalism, group pride, and concern with knowledge are present in all or most cultures. However, by comparison with Ruanda, Urundi is not conservative as a matter of explicit principle; little attention is given to the preservation of traditions, and there is continuous loss of traditional knowledge; there is no class of specialists comparable to the *abiru* of Ruanda; national pride is high but neither so persistent nor so open and aggressive as in Ruanda; and the change towards European ways, though considerable, is decidedly slower, more difficult and less uniform than in Ruanda. A modified form of the analytic model devised to account for the Navaho and Zuñi cases may be useful in dealing with these data on Ruanda and Urundi.[11]

Obviously a complex phenomenon, change related to culture contact may be presumed to require a complex model for its analysis. It is assumed that changes of some kind occur whenever there is culture contact, as well as in response to environmental changes, migration to new environments, and so on. For present purposes, it will be sufficient to deal with non-spontaneous changes in the culture contact situation, that is, change involving not mere exposure to a different culture but rather confrontation by a planned program of change supported by all the perquisites of authority in the innovating culture.

The analysis of changes in a culture contact situation involving planned programs from authoritative sources cannot start from a simple assumption of either

11 Albert, in press.

uniform resistance or uniform receptivity to change, in view of the data indicating that there is resistance in some cases, warm welcome in others. Moreover, it cannot start from the assumption that some kinds of change are inherently easier than others, for example, that adoption of material culture items is always easier than of a new religion or marriage form. For, in some cases, there is resistance to change in material culture, e.g., new agricultural implements, while in others there is relatively rapid and easy conversion to a new religion. Receptivity to change and the probable consequences of change probably depend upon a variety of factors which have different weights in different culture-contact situations.

In examining receptivity to innovation proposals, consideration probably has to be given in the first instance to whether the new item is an addition to what already is present in the culture or requires the surrender of some item already present, with or without the offer of a replacement. It is postulated that receptivity is greater for additions than for removals or replacements. As a corollary, the richer a culture, that is, the greater its cultural inventory in any respect, the more likely it is that an innovation will require removal or replacement. Further, receptivity to an innovation that involves removal or replacement of a familiar cultural item—material, ritual, or otherwise—may be expected to vary inversely with the intensity and centrality of the value of the institution or item for which the innovation is proposed. It is possible that intensity is as or more significant than positive or negative value as such, given the insistent retention of the apparently negatively valued complex of witchcraft. It is further assumed that resistance to an unreplaced removal is greater, though probably not by much, than for substitution. It is understood that in judging whether a change is an addition, removal or replacement, the point of view to be taken is that of the receiving culture.

A second consideration pertains to the content of an innovation, in particular its meanings, values, and relationships to existing ways as viewed in the receiving culture. It is assumed that receptivity varies directly with perceived positive value of the innovation and negative value of the traditional item affected, and inversely with perceived negative value of the innovation proposed and positive value of the traditional item affected. Cultural perceptions are of particular weight here. For example, a change from polygamy to monogamy may be understood in the proposing culture as exclusively a moral matter but in the receiving culture as a question of the economics of having many wives for labor on many fields, of pride in paternity of many children, and so on. Or, a change that appears to the innovator as strictly an economic one, e.g., stock-reduction or erosion-control or changes in agricultural techniques, may and probably will be viewed in the receiving culture as threats to prestige, violation of ritual requirements, and so on.

Since each culture has its own value interpretations and its own value hierarchy, specific information is necessary for the interpretation of each innovation. As a corollary, it is suggested that resistance will vary directly with comprehension. Negatively stated, resistance will be greater where an innovation is not understood or its results or intended benefits not perceived, even if no taboo is broken and no tradition threatened.

A third consideration involves the amount of pressure applied in a given case of innovation. Receptivity is perhaps not the term. Rather, it is assumed that the more severe the negative sanctions for rejection, the more likely it is that a change will be accepted. There is good evidence that this factor weighs heavily in determining change. The data show relatively extensive changes in economics, politics, religion, and material culture, relatively little change in language, child-rearing practices, diet, and other institutions not singled out for directly planned alteration. The values of the innovator and the pressures applied to see them through are by no means negligible factors in determining change.

A fourth factor is the quantity and extent of change involved in an innovation. It is assumed that receptivity varies inversely with the number and variety of adjustments required. The point of view, again, in interpreting this factor is that of the receiving culture. For example, a stock-reduction program in Ruanda and Urundi cannot be counted as a single change, since it entails modifications in the rules governing the payment of bride-wealth, the criteria of prestige in the community, the rules of inheritance of property, the basis of political and social power through the exchange of cows for military or agricultural and other services, the esthetic differences between long-horned cows and mere coins.

A distinction must be made here between perceived quantity and extent of a change, as in the case of the above-mentioned stock-reduction program, and effective quantity and extent. An innovation may be welcomed or sought after by the receiving culture or insisted upon by the innovating culture in ignorance of subsequent repercussions, as in the unwelcome effects of n torized transportation upon social and family life, or the exchange of the problems of polygamous marriage for those of monogamy and prostitution, or in the effects upon father-son relationships of the education of the son to new and more highly valued knowledge such as writing.

The assumption that the greater the quantity of change anticipated, the greater the resistance is related to a further assumption of a finite capacity of any group to absorb change. Voluntary and non-voluntary changes alike require readjustment in the pattern of a culture as one change begets others in systematic ways that vary with the particular pattern or structure of a society. The greater the

number and extent of the changes made, the greater the disorganization suffered in the course of absorbing or otherwise dealing with innovation.

A fifth factor is the state of the social system at the time of innovation. It is assumed that the higher the degree of integration and organization in the society, the more readily can change be absorbed, and the more centrally organized the society, the more uniformly will the changes be distributed among the members of the society.[12] It is possible that the more recently a society has accepted or had imposed upon it a change, the less capable will it be of absorbing additional change. This may account for the contrast between the slowness of the Navaho to take in White American culture and the preceding period of extensive borrowing of Spanish and Indian culture items.

Though *receptivity*, i.e. willingness to adopt a change, may vary directly with its novelty and consequent lack of challenge to preëxistent ways, the *psychological possibility* of adoption and the *effects* of an innovation would seem to depend rather upon the state of the society at the time of innovation. It may also be the case that deculturation, voluntary or forced, is equatable with acculturation, voluntary or forced, in relation to the assumed finiteness of the capacity of a society to absorb change. The slower rate of acceptance of White culture by Navaho and Rundi as compared with Zuñi and Ruandans may be in part accounted for by the more rapid rate of loss of culture in the former, the total quantity of change being more nearly equal than would appear when only additions to the culture are taken into account.

In sum, the interpretation of receptivity to and consequences of change are thought to involve consideration of (1) whether an addition, removal or replacement is at issue; (2) the perceived value of the innovation in relation to the perceived value of traditional ways affected by it; (3) the amount of pressure, i.e. the severity of sanctions associated with the rejection of the proposed innovation; (4) the amount of change involved; and (5) the level of organization and integration of the society at the time the innovation is attempted. No one of these factors would seem useful by itself in accounting for the variety of patterns of change observed, and although they are intended as mutually exclusive, they may not be exhaustive of the factors necessary to deal with non-spontaneous change in the culture contact situation.

If we now consider the contrasts between Ruanda and Urundi and the apparent paradox of more rapid change in a traditionalistic than in a non-traditionalistic culture, the last of the above-named factors takes on especial importance. It is virtually tautologous that there will be greater uniformity and effectiveness of

12 Cf. Fallers, 1959.

change in a strongly centrally organized society than in a decentralized one. That is, in proportion as political power in a society is strongly centralized, conformity to social and political decrees will be more effectively enforced and uniformity in behavior therefore greater. It follows that when a change from outside the society is proposed, the stronger the central political power, the more effective and uniform will be the result. The tautology holds equally for acceptance and rejection of change. That is, the stronger the central power, the more effectively it can prevent a change, whereas in an individualistic or diffuse socio-political organization, when pressures for change are applied, individuals or small groups may take or leave the change that has been proposed. Since uniformity of adoption of changes is a measure of the success of an innovation, the difference in socio-political organization between Ruanda and Urundi, as a difference between a strongly centralized and a decentralized political system, accounts in large measure for the differences in the success of the programs proposed by the Belgian trusteeship government.

Traditionalism need not be interpreted as blocking change as such altogether, but rather as an attitude towards conformity to cultural norms that opposes individualistic inspiration or adoption of change or changes unmodified to fit into the familiar pattern of the culture. Far from opposing all innovations, the Ruandans have pursued aggressively many elements of the foreign cultures to which they were exposed. The visible advantages to the government of Ruanda in increased wealth, power, and control offered by European ways, that is, the instrumental utility of many elements of European culture for the fulfillment of Ruanda's traditional values, accounts in no small measure for the observed acceptance. Moreover, the adoptions from the alien culture have been for the most part added to the tradition. Ruandans who speak French and serve the Belgian government are not necessarily less anti-White or less devoted to their own ways for having added on competences which fulfill traditional values, in some cases better than traditional means. However, the conflict between the new and the traditional religion has been severe. The ancestral cult and the possession cult of the tradition, as well as polygamy and other institutions, have been declared illegal. In this conflict between tradition and innovation, the strength of centralized power is tempered by resistance in the general population to surrendering the traditional religion. It is interesting to note that while Ruanda converts are regarded by the missionaries as more comprehending Christians than those of Urundi, there are fewer of them.

The diffusely organized, non-traditionalistic Rundi, while they have changed

less towards European cultural ways, have lost more of their traditional ways than the Ruandans. The loss of traditional knowledge and ways is change, but in a negative and culturally impoverishing and disorganizing direction. If there is indeed a limit beyond which any society can adjust to change, and if this limit is lower the less stable and the less centrally organized the social system, then Urundi's history of revolution preceding the period of contact would be relevant to explaining the observed slowness and resistance to changes. Innovations appear to reinforce conditions prevailing at the time of contact, strengthening the power of a strongly centralized government on one hand and on the other further emphasizing individual or sectional difference and further diffusing power in the initially uncentralized community.

Viewed in historical depth, the process of culture change may itself bring about differences in the factors relevant to the analysis of further change. A culture now rapidly adopting changes may reach a saturation point and stop. Or, a change in the form of political organization by an external agency or internal forces may alter the degree of uniformity of changes effected in the culture. At a given time in its history, however, a traditionalistic and strongly centralized society like Ruanda can show a greater actual amount of change— in material culture, the economic system, the political system—than Urundi, more diffusely organized though less traditionalistic and psychologically more receptive to innovation or less resistant on principle to it.

Bibliography

Albert, Ethel M.

1960 "Une Etude de Valeurs en Urundi" (in *Cahiers d'Etudes africaines*, Paris).

In press "Similarities and Differences in Value Systems" (in *The People of Ramah* [tentative title], Evon Z. Vogt and John M. Roberts, eds., Evanston, Ill.: Row, Peterson).

Belgium: Ministère des Colonies

1926 *Rapport Présenté par le Gouvernement belge au Conseil des Nations au sujet de l'Administration du Ruanda-Urundi pendant l'Année 1925* (pp. 34-58, Bruxelles: F. van Gompel).

1951 *Plan décennal pour le Développement économique et social du Ruanda-Urundi* (Bruxelles: Editions de Visscher).

1956 *Rapport Soumis par le Gouvernement belge à l'Assemblée générale des Nations unis au sujet de l'Administration de Ruanda-Urundi pendant l'Année 1955* (Bruxelles: Fr. van Muysewinkel).

Biche, Y.

1956 *Le Problème de l'Elévage du Bétail au Ruanda-Urundi* (Les Naturalistes belges, Nov.-Dec., pp. 268-279).

FALLERS, L. A.
1959 *Despotism, Status Culture and Social Mobility in an African Kingdom* (Comparative Studies in Society and History, vol. 2, no. 1, pp. 11-32).

HIERNAUX, J.
1956 *Analyse de la Variation des Caractères physiques humains en une Région de l'Afrique centrale: Ruanda-Urundi et Kivu* (Annales de Musée Royal du Congo Belge, Sciences de l'Homme, Anthropologie, vol. 3, Tervuren, Belgium).

MAQUET, JACQUES J.
1954 "The Kingdom of Ruanda" (in *African Worlds*, C. Daryll Forde, ed., pp. 164-189, London: Oxford University Press for the International African Institute).
1954 *Le Système des Relations sociales dans le Ruanda ancien* (Annales du Musée Royal du Congo Belge, Sciences de l'Homme, Ethnologie, vol. 1, Tervuren, Belgium).
1957 *Ruanda, Essai photographique sur une Société africaine en Transition* (Bruxelles: Elsevier).

RYCKMANS, P.
1953 *Une Page d'Histoire coloniale: L'Occupation allemande dans l'Urundi* (Institut Royal Colonial Belge, Section des Sciences Morales et Politiques, vol. 29, no. 5).

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ASPECTS OF CURRENT PHYSICAL ANTHROPOLOGY: METHOD AND THEORY

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CONTAINED within the current advances in physical anthropology there is a spectrum of factual data, techniques of data collection and analysis, and theoretical reorganization which is increasingly useful to problems of human population history. These problems include not only the evolutionary history of particular populations, but their relationships to other populations and the analysis of modes of change as well as directions of change. At the factual end of the spectrum increasingly more information can now be extracted from skeletons and from living persons and, at the analytical end of the spectrum, much better use can be made of this information. The reconciliation of blood group data and of morphological data on both skeletal and living populations has been effected. Populations are more commonly regarded as processes rather than as states and the consequent analysis of them and of their affinities is substantially more sophisticated. Though some of the elements may be considered new, these advances are for the most part simply the extension and more rigorous application of older counterparts. They do, as a whole, reflect the development of a unified physical anthropology.[1]

INVENTORY VERSUS CLASSIFICATION: INTERGROUP VARIATION

In his durable and classical discussion of variation, Simpson[2] notes its availability for, and its relationship to, different evolutionary processes with reference to the units in or between which variation is occurring. The four categories of units he lists are (1) variation within individuals, (2) variation between contemporaneous individuals within a population of interbreeding individuals, (3) variation between or among two or more such groups, with little or no interbreeding, and (4) successive variation within groups, lineages, or phyla, with the passage of time. The latter he notes *is* evolution, not simply material for evolution. Though both intra- and intergroup variations provide material for evolution a major difference lies in the fact that intragroup variation is a unit which is transmissable through the group whereas intergroup variation is transferred from one group to another in much more limited extent or not at all.

In his Huxley Memorial Lecture, 1956, J. B. S. Haldane[3] expressed his belief

1 Mourant, 1956, p. 11; Roberts and Weiner, 1958.

2 Simpson, 1953.

3 Haldane, 1956.

that anthropologists have been mainly interested in the differences between human groups, less so in the differences within groups, and rather little in the characters which are common to all groups. Whether or not this rank order would be subscribed to by all anthropologists there is no doubt of the concern with differences between groups, their measurement, explanation, and evolutionary significance. Characterization of the groups, intragroup analysis, must precede, but not preclude, a similarly precise series of intergroup comparisons.

The single point which I wish to set forth here concerns the increasing apprehension of the distinctions between intragroup analysis and intergroup analysis and the related distinctions between inventories of races and classifications thereof. The vast majority of so-called "classifications" of races, or of fossil man, are essentially nothing more than inventories. As traditionally depicted they are simply inventories of different peoples in different places. For a concrete specimen of an inventory we may take the classification of six genetically defined races offered in Boyd's *Genetics and the Races of Man*.[4] The approximate gene frequencies and the ratio of A_2/A_1 are given for five continental groups plus an Early European group (hypothetical but cogently based upon the Basques). The missing step, if this table were to be considered a classification, is an arrangement of the six groups to each other reflecting an estimate of their mutual affinities. Are these six equidistant from each other, or are the American Indians more similar to Asiatic Mongoloids than they are to African Negroes? How is such an arrangement made? What is the formula? Until the six described units have been arranged in a constellation indicating the relative degree of biological distance that separates each one from the other five, this tabulation remains an ordering of the data on continental or geographical lines with the exception of the Basques who are elevated into their position largely on the criterion of distinctiveness. Biologically meaningful classification, as defined here, involves the simultaneous comparison of three or more groups, employing the same traits for the statistical treatment. The resulting estimates of similarity and dissimilarity and the consequent positioning of the races so classified produce a constellation. This constellation, which shows the relative biological distance between the groups, is often illustrated in a geometric representation. The basic assumption is that degree of similarity reflects a corresponding degree of genetic relationship.

Statistical treatment has been concerned more often with the significance of a difference rather than with the amount of difference between groups. A principle criticism of the "coefficient of racial likeness" is the fact that it measured the

4 Boyd, 1950, pp. 268-269.

statistical significance of differences but did not permit an ordering of groups on the basis of relative degrees of similarity, and that it did not take into consideration intercorrelations between anthropological characters.[5] Anthropologists became accustomed to the rubric that two groups not displaying a statistically significant difference for a given series of measurements could have been drawn from the same population and, though they noted that such a test did not permit the statement that they were in fact drawn from the same population, such groups were usually lumped. In addition to the defect of mistaking significance for distance this time-honored procedure contained two other defects of great consequence. Statistically minor differences were ignored which in a fashion distracted attention from micro-evolutionary changes. It seems trivially obvious at this remove that fissioning groups ordinarily show little difference between ancestral and descendant isolates. However, the differences and similarities which they do establish or maintain are of paramount biological significance. A third defect lay in the implications, inexorably followed by applications, for the concept of interbreeding populations. Reproductively separate groups were lumped into larger categories, Aleuts and Eskimos were occasionally rolled in with American Indians when they failed to display enough significant differences from Indians for the traits and groups being compared. The employment of a statistically significant difference was very much like the use of a barometer with only one calibration. Trends could not be read, and short term predictions could not be made. Only the biological equivalent of a hurricane could be noted.

Estimation of distance for three or more populations was worked out by Mahalanobis and by Rao.[6] The distinction between classifying an individual event or skull into a series as opposed to arranging the series in a constellation was efficiently set forth by Rao in *Advanced Statistical Methods in Biometric Research*.[7] His discussion of "The Concept of Distance and the Problem of Group Constellations" enunciates clearly the problem of classification of groups as distinguished from the classification, discrimination, or specification of individuals into groups. A more simple statistical treatment, less likely to contain computational errors, and which calls attention to two other aspects of groups, was then evolved by Penrose in his article, *Distance, Size and Shape*.[8] Though these treatments utilized measurements of continuous variables they can also be applied to discontinuous traits, cranial or serological.

It is possible that the great amount of time, or more precisely, the operations performed in describing a series of skulls has, with the well known historical

5 Fisher, 1936; Seltzer, 1937; Penrose, 1954.
6 Mahalanobis, 1936; Rao, 1948.
7 Rao, 1952.
8 Penrose, 1954.

background in Linnaean classification, contributed to the blunting of the distinctions between the various procedures actually performed. Classifying or discriminating skeletons of unknown sex into one of two categories enjoys no grammatical distinction from classifying an unknown skeleton into a racial group or a racial group into a continental category, though the actual operations are distinctly different. We ask the question, Is this a Negro or a White, a Neanderthal or a Cro-Magnon? in the same way that we ask the question, Is this a male or a female?, and then we go on to ask, Are the Lapps Mongoloids or Europeans? In working with living groups the first two questions are simply answered. The sex is usually apparent and an individual belongs to the group or groups from which he has received his genes (or to which he has given genes, or both) and is determined solely by actual genealogy, not by morphological appearance. However, the question of between-group distance is the same for living and dead and is substantially different from that dealing with classification into known categories, unless we assume that there are five or some other given number of exclusive categories into which all the populations of mankind fall. Strictly speaking we must rule out such a question as "Are the Lapps Mongoloids or are they Europeans?" and ask to what degree they are similar to other groups. Such a question takes on more biological or evolutionary meaning when we ask, "Are the Lapps more similar to western Finns than they are to northern Swedes?" Three or more groups are required for comparison if supernal categories do not exist.

Several studies have appeared recently in which the relative position of one group to at least two other groups has been estimated. Some have used discontinuous traits, blood groups being the most commonly employed; some have used continuous traits, and a few have employed both. Different formulae have been employed in some cases to the same data. A sample of such studies is seen in the works of Hiernaux (1956), Laughlin and Jörgensen (1956), Mukherjee, Rao, and Trevor (1955), Penrose (1954), Pollitzer (1958), Roberts (1954), Sanghvi and Khanolkar (1949), Sanghvi (1953), and Spuhler (1954). One problem which none of these researchers has solved is how to represent multidimensional space on one surface, the printed page. This is apparently a topological problem for which there is no solution. It does emphasize the point that evolution is multidimensional and is overly simplified in the conventional charts and tables of twig diagrams. In any event we may note the demise of the older "classificatory systems" which were in effect simply inventories extended to groups and turn to more realistic estimations of the relative positions of groups in human evolution.

An interesting example of convergence, which may upon exploration turn into an example of "parallelism," is seen in the statement of the interdependent prob-

lems of group origins and predictive classifications. In his final study, *The Ammassalik Eskimo*, Thalbitzer states:

> The science dealing with the rise of a new group of people is as yet not greatly developed; we know virtually nothing. A certain school has begun to graduate *culture circles* according to age, a proceeding which has presumable only value as an experiment. So far no one has succeeded in producing the formula of the origin of any people, much less a general formula for use in comparisons.[9]

Spuhler, in apparent antiphony, states:

> In spite of over one hundred years of use, we still lack a set of objective rules for interpreting anthropometic material in assessments of unknown relationships. . . . But the same set of traits, applied in the same order, does not work for all possible discriminations. This is the reason we cannot define a general rule. It is the reason we cannot be certain in making statements about unknown relationships. In short, present anthropometric classifications can describe but not predict.[10]

Two cures for the problem of finding a formula for the origin of groups or enabling prediction in human evolution consist in (1) more extensive treatment of human populations as processes rather than as states, and (2) testing more local cases where the direction of migration or the number of generations of separation is known. A single formula may not be a realistic goal but a larger number of verifiable generalizations is.

INTERNAL AND EXTERNAL DIMENSIONS OF POPULATIONS: INTRAGROUP VARIATION

In his presidential address to Section H of the British Association, *Blood Groups and Human Evolution*, Mourant succintly notes the situation with which we have to contend:

> For many years now, anthropologists and medical research workers have accepted the theory of natural selection, but we in these fields of research have nevertheless tended to think of life, and especially of human populations, in terms of states rather than of processes. A given set of skull measurements or a given set of blood groups was regarded as defining an existing population; but we did not give sufficient thought to the process by which those characteristics arose. It was very convenient to be able to put individuals and communities into a number of pigeonholes; but how much had we learned about them and about man in general when we had put them there?[11]

9 Thalbitzer, 1941, p. 592.
10 Spuhler, 1954, p. 608.
11 Mourant, 1956.

If we accept the treatment of populations in terms of processes rather than in terms of states as a desirable goal, what then are the actual consequences in research procedures and succeeding analyses?

The problem is the appropriate treatment of intragroup variation but with reference to intergroup variation and, especially to successive variation within groups with the passage of time, Simpson's fourth category. Two points of entry into the problem are: first, the distinction between the physical manifestations of race or population and the underlying matrix of genetic pathways which are an equally fundamental aspect of populations. The second point concerns the actual priority of steps we go through in the course of studying a population, the delimitation and internal definition of the group, followed by the collection of physical data and characterization of the group, and then the comparison of that group with other groups.

The first step in the study of a group by a physical anthropologist has nothing to do with reagents or calipers. Upon wading ashore at a new village his first task is to find out who belongs there, i.e. to define his sample. His only method for delimiting the group consists in defining its members and this is a genealogical endeavor. Coöperation with an ethnographer or linguist is frequently of great advantage to both researchers at this point. The assembling and scheduling of the genealogies automatically delimits the group and defines the internal structure. The structure consists in genetic relationship which is a variable quantity that is expressed in the quantitative measure of coefficients of relationship or simply degrees of relationship. The degree of relationship of each person in the group to every other person can be measured and can be drawn. Happily parents are a necessity which provide the basis for uniform measures of such relationships. If a person has given or received a gene he can be defined as belonging to an appropriate group or groups. Thus, membership rests on a genetic basis, not upon a morphological basis.

No simple assumption concerning random breeding can be made, for, as Sewall Wright had pointed out, a random breeding population would be structureless.[12] One universal aspect of human culture is the existence of incest prohibitions. With rare and occasional exception, brothers and sisters, fathers and daughters, or mothers and sons are not permitted to mate with each other. There are many other customs which interfere with random mating (and some so conducive to random mating that they fracture any chance of securing reliable genealogies) and these must be carefully delineated in studying the biology of any human group, for they

12 Wright, 1955, p. 105.

have direct and calculable genetic consequences.[13] Oliver and Howells in their recent study of *Micro-Evolution: Cultural Elements in Physical Variation*[14] reflect the increasing attention to this problem.

If all the people in a breeding community are positioned in a relationship matrix and then studied physically they nevertheless constitute only one temporal sample, a single episode, in the evolutionary history of a population. I think that preoccupation with the physical manifestations of the population and the minimization of the underlying genetic background has contributed to our tendency to view populations as states.

The second step or operation in the study of a group is the collection of the data on physical traits and their analysis or characterization. For summary purposes these may be classified into continuous traits and into discontinuous traits which in turn may be divided into those with a known mode of inheritance and those whose mode of inheritance is at present unknown. Reiteration of the richly documented view of a scholar is pertinent here:

> I wish to stress that there can be no real incompatibility between the information supplied by blood groups and that yielded by morphological characters. Each kind of evidence must add to the information yielded by the other.[15]

Most of the morphological characters are continuous, they are measured with calipers, scales, spectrophotometers, etc. However, I wish to call attention to the way in which traits are manipulated statistically. Thus the fissural patterns of the lower molars, muscles such as the Peroneus tertius, the mandibular torus, and dehiscences of the tympanic plate are morphological but their phenotypic appearance is discontinuous. Thus they may be recorded as present or absent and manipulated in a fashion similar to the phenotypic occurrence of blood group A or B. Their mode of inheritance is not known, so that for certain purposes they can not be employed. Many traits need to be studied both qualitatively and quantitatively. The recent discovery of seasonal variations in antibody levels reported by Shaw and Stone[16] is a case in point.

The collection of genealogies is also of indispensable importance for such purposes as the detection of rare antigens, position effects, and transition forms (intermediate forms, epistatic effects, and modifiers), as well as for tests of selection, excess of heterozygotes and related processes.

An increasing number of studies on racial groups are including some correction

13 Kluckhohn and Griffith, 1950.
14 Oliver and Howells, 1957.
15 Mourant, 1956, p. 11.
16 Shaw and Stone, 1957.

for the factor of degree of relationship between members.[17] It is more commonly appreciated that differences between groups in gene frequency ratios may in part be due to the presence of more closely related people in one group than in another. This has led to some interesting problems, for in some small groups the total number of unrelated persons may be only five in number, as with a sample of Anaktuvuk Eskimos.[18] Differential reproduction between families is as important for comparisons between groups as it is for the study of selection for blood groups. Unfortunately studies are still being conducted in which the sample description contains references to undefined families and overlooks the fact that families are not unrelated units.

Current advances in the study of physical traits are by no means confined to the area of blood groups. The studies of Barnicott, *Human Pigmentation*, of Moorrees, *The Aleut Dentition*, and of Sachs and Bat-Miriam, *The Genetics of Jewish Populations: 1. Finger Print Patterns in Jewish Populations in Israel* are specimens of the current diversity in research.[19]

The data collected can be partitioned into many different groupings for analysis: sex, age, unrelated persons, persons of specified relationship, hybrids versus non-hybrids, mating types, family lines, and by generations. For evolutionary purposes the most micro-cosmic micro-evolutionary study possible is the contrast of succeeding generations. Attempting to sort all the members of a breeding community into uniform generations, however, raises problems which make the study of macro-evolution seem more desirable. The exercise is useful for gaining an insight into the effects of cross-sectioning a structure which is non-lamellar though often treated in the past as though it were a tree.

In the absence of genealogies skeletal populations must be treated as though they had little or no structure. The analysis is then like that for a living population for which the genealogical data is not available or is not used in analysis. Archaeologically-derived skeletal series constitute our greatest reservoir for past human evolutionary history, especially of the last five thousand years where the series may be of considerable size. The situation is humorously simple: we can dig up our ancestors faster than we can evolve. For certain basic questions only the skeletal series can provide an answer. Whether American Indians possessed blood group B at the time they crossed Bering Strait and subsequently lost it, or whether they never had the gene for B can only be determined by the tests for presence of

17 Hanna, Dahlberg, and Strandskov, 1953; Laughlin, Gray, and Hopkins, 1956-57; Spuhler and Kluckhohn, 1953; Cotterman, 1947.

18 Laughlin, 1957.

19 Barnicot, 1957; Moorrees, 1957; Sachs and Bat-Miriam, 1957.

antigens in skeletons. Substantial advance can be reported here and research on more rigorous tests is anticipated. It is interesting to note that the unusual stability of blood group substance and the remarkable specificity of reactions has on occasion been a source of embarrassment rather than a natural aid in casual investigations. Two major sources of error in skeletal typing have been: first, failure to realize the fact that the antisera were altered, rather than the antigen; and second, failure to remove contaminating agents before testing. Contaminated specimens result in contaminated sera which in turn yield unexpectedly bizarre results. Nonspecific reactions have not always been distinguished from cross-reactions. Gray[20] has shown how the simple use of human antisera as a buffer serves to reduce nonspecific reactions. There are no contaminating agents that can not be removed by standard washing techniques. The increasing knowledge of the chemistry of blood group substance indicates the possibilities of radically different kinds of testing.[21] In the absence of mineralization—and few skeletal series of the last five thousand years show much mineralization—blood group substance remains accessible, apparently in easily usable amounts.

McKern and Stewart have prepared an extremely important work, *Skeletal Age Changes in Young American Males*.[22] This provides massive documentation with straightforward analysis of age changes in the greater part of the human skeleton and adds substantially to the accuracy of age identification. It is also useful in laboratory courses on the skeleton. Accurate identification of age is of increasing pertinence in research on pathologies, such as anemias, which may leave an impress upon the skeleton and which have an earlier age incidence than most pathologies. Some groups of American Indians are notorious for their frequencies of skeletal pathologies suggesting the operation of anemias. Though Hooton called attention to these in his work on the Indians of Pecos Pueblo, including the observations of L. K. Diamond, disappointingly little use of Indian skeletons has been made. There are several places in the New World (Alaska, southwestern United States, western Canada) where contemporary Indians can be traced back to ancestral skeletal series. This remarkable continuity remains to be exploited.

Employment of discrete traits on the skeleton is enjoying greater usage. For studies of human migration and inter-isolate affinities their multiple use may be even more sensitive than traditional measurements. Among the advantages of recording presence or absence of such things as mandibular tori, palatine tori, marginal foramina, dehiscences, direction of the superior saggital sinus, supraorbital foramina, mylohyoid arch, etc., is the objectivity between observers, lack of inter-

20 Gray, 1958.
21 Gray, 1959.
22 McKern and Stewart, 1957.

correlation, simplicity of statistical treatment, the utilization of broken, partial or warped skulls that are unsuitable for measurement, and the applicability to children and adolescents. An important distinction lies in the use of such traits, in combinations, to characterize single populations and compare groups, rather than simply the distribution of such traits with the focus on the trait rather than the population.[23] Moorrees' study of *The Aleut Dentition* appears to be the first study in which fissural patterns, mandibular tori, etc., are used to contrast two contiguous isolates and then to compare these with other Eskimoid and Mongoloid groups.[24] The genetics of such traits is being studied in other animals as well as in humans.[25]

CONTIGUOUS LOCAL RACES: THEIR MULTIPLICITY AND USES

A large part of the current progress in the study of human evolution is related to the increased use of small local races. While the day of long distance comparisons is not past, it is apparent that little information concerning processes of change can be gained by comparing races as far removed as Arizona Basketmakers and Alaskan Athabascans in contrast to comparing groups that are known to have shared a common origin witihin a specifiable period of comparative brevity.[26] The essential point is, of course, not geographic separation but number of generations removed. Whether all pygmies in the world came from one pot is a fond question and can only be solved when the immediate neighbors and predecessors of the pygmies in each case are also studied.

Again, there is nothing radically new about the use of local races. Wissler paid considerable attention to them and noted: "In the first place, our previous discussions have revealed the primary somatic units to be the in-breeding local social groups."[27] Incidentally, Wissler also suggested examination of discrete traits, citing such as the *inca bone* and *fossa pharyngea*. Both the evolutionary significance of local populations and their importance in comparisons between large taxonomic units has been economically summarized by Simpson.[28] In commenting on the question of the unusual variability of man considered as a whole species he observes:

> Yet it seems to me more probably that the high, present inter-group variation, which clearly exists, was developed by divergent evolution of local populations each of which was (and is, unless highly hybridized, *vide* Pearl's data) of quite usual variability.

23 Sullivan, 1922; Broman, 1957.
24 Moorrees, 1957.
25 Grüneberg, 1952.
26 Collins, 1945.
27 Wissler, 1922.
28 Simpson, 1953, p. 79.

Thinking in terms of processes of differentiation between populations Mourant[29] sets forth the reasonable hypothesis that the major distinctions between the principal subdivisions of mankind took place many thousands of years ago and that subsequently minor local differentiations arose between "local races."

The point which I wish to emphasize is that these local races are also the life blood of anthropological researches. Without delicate and unremitting attention to these primary units vast quantities of information are discarded, the study of processes is deterred, and generalizations on human evolution are vitiated or rendered unnecessarily obtuse.

It makes a good deal of difference in both theory and research application whether we decide to recognize the smallest detectable isolates on the basis of their existence as breeding units or whether we employ a criterion of distinctiveness as a prerequisite to their recognition. Embedded in one of the most lucid discussions on the concept of race Boyd[30] intrudes the statement:

> We still have to decide *how much* difference there must be in the distribution of the known variable genes and chromosome structures between two populations before we decide to call them two different races. [And further] It is an arbitarary matter which, and how many, gene loci we choose to consider as a significant "constellation"; but it seems better, on the one hand, not to designate a multiplicity of races which differ only in regard to a single pair or a single set of allelic genes; and on the other, not to insist that the races we define must differ from each other with respect to all their genes.

For summary purposes such as preparing an inventory of continental races or estimating distances between major races it is, of course, appropriate to employ more synthetic groups, but not for low level research purposes. The situation is strictly analogous to mapping the world. As cartographers we can select the biological equivalent of a 10,000′ contour interval and quickly lay out the major contours of the world. However, for elucidating the processes we must operate at more modest altitudes. An essential point is that small local races do exist: we do not classify them into or out of existence. The only choice open to the researcher is whether to recognize them or ignore them. The Polar Eskimos exist without any decision on the part of anthropologists. In fact they doubted the existence of any other people in the world at the time of their discovery in 1818 and it required a decision on their part to recognize the existence of the rest of humanity as fellow humans rather than beings of another sort. We can not talk about the Navaho

29 Mourant, 1956, p. 6.

30 Boyd, 1950, pp. 202, 207.

or the Basques until we have sampled enough of their constituent breeding isolates to ensure sound generalization. Similarly we can not talk about "the American Indian" until we have sampled enough groups to ensure verifiable generalizations. How different the groups may be from each other is a reflection of their biological history and is a factor to measure between all existing groups, not to use in determining how many or which groups will be accorded recognition.

One of the real advances of the twentieth century was the recognition of the "surprising discovery" that the differences between brothers and sisters might be of the same kind as those between different races of a species.[31] In discussing the problems of race boundaries Dobzhansky[32] has spoken precisely to the point:

> The wisdom of applying the same term "race" to distinctions of such different orders of magnitude may, perhaps, be questioned. The fundamental nature of race differences is, however, the same regardless of their magnitude, so that a common name has at least the advantage of emphasizing the dynamic nature of the process of race formation and race divergence.

Granting the fact that we may recognize every little group for which a matrix of genetic pathways can be drawn, what do we lose if we do not start at the bottom? Specifically we are limited in dealing with rates of divergence, in observing the differences between various traits in rate of change, of clines or gradients and the superimposition of gradients, effects of population size, and in deducing the direction of migration of whole peoples, or of gene flow between units. Where two groups display the same traits we still must know whether it is due to the same gene and also whether their genes for the trait were drawn from the same source.

One of the current advances is the greater use of smaller units and equally important that they are contiguous. This is reflected in the studies on intergroup distance cited above. A comparison of the citations in Boyd's 1939 tabulation of the blood groups and those cited in Mourant's tabulations of 1954 and 1958 also attest to this trend.[33] The essential point is that in the absence of between-group mating records, the identification of the genotypes of those mating across boundaries, and the identification of the genotypes of the offspring and the final disposition of the offspring, several assumpitons concerning the direction of gene flow must be made, and of the relative effects of selection. The likelihood that such assumptions will be correct is enormously greater where the groups are contiguous and where there are limited contacts. The likelihood that the gene for group B in

31 Anon., 1951.
32 Dobzhansky, 1950.
33 Boyd, 1939; Mourant, 1954; Mourant, Kopec, and Domaniewska-Sobczak, 1958.

Icelanders, Scots, and Norwegians was drawn primarily from a common source is infinitely greater than the likelihood that the gene for B in Congo pygmies and New Guinea pygmies was drawn from the same source.

The studies of intergroup distance illustrate the current kind of selection of problems which is only beginning to be exploited. These are the comparisons of peoples who are known to have a common origin and whose period of separation is known, at least within reasonable bounds. Spuhler's study of the people of Hano Pueblo,[34] whose ancestors are known to have migrated from the Upper Rio Grande in the first decade of the eighteenth century, is a case in point. Many or most peoples have not been endowed with historical checkpoints; nevertheless they may be eminently suitable for study because the number of choices open to them was limited. In the Aleutian Islands it was obvious that the inhabitants could only move east or west, and it was a relatively simple procedure to demonstrate that they moved west onto the islands from the Alaskan mainland. Greenland provided a situation unique in human history. Being an island most of which is covered with an impassable ice sheet (impassable for marine-adapted Eskimos), only three choices were available to immigrants. They could move either clockwise or counterclockwise or in both directions around the island. The fact that the two isolates on the east coast showed the greatest intergroup distance confirmed indications from archaeology and ethnology that the Eskimos had in fact migrated in two opposing directions about the island.[35]

Though more local races or tribal units are being employed, there does not appear to have been corresponding attention paid to their structure. It is still common to read, under the section of a report devoted to material and methods or sample description, that only four, two, or one person from each family was utilized. The assumption remains that individuals inside families may be related to each other, but that families are not related to each other. No distinction is made between groups in which extended families are known to exist, as in the case of the Basques or Apache; in fact, the term family is used as though it reflected a universal and uniformly composed unit. Since family composition is culturally defined, it seems necessary to define its meaning in each group studied and determine to what extent the nuclear families are interrelated or to proceed in the more economical fashion of securing a genealogy for each person and determining his or her actual degree of relationship to every other person in the group. Until some anthropologist discovers a group in which the individuals and their immediate or extended families are not related to each other this source of redundancy

34 Spuhler, 1954.

35 Laughlin and Jörgensen, 1956.

will continue to vitiate comparisons between groups. The actual number of matings between units, their genotypes, and the genotypes of the offspring must be determined before analysis of the relative contributions of selection and gene flow or actual migration of whole groups can be handled with precision.

This constitutes the major dilemma of sampling small isolates or partial isolates. If the groups sampled are small many or most of the persons will be related to each other. If individuals are drawn from four or five groups in an effort to secure "unrelated" persons then the frequencies will not reflect any group in particular and thus be of obscure meaning for comparison.

A bean bag concept of populations still obtains. The number of individuals typed or measured is faithfully, even proudly, given. But persons are treated statistically as beans, or nebulous units termed "families" are treated as the beans.

The dividends for archaeologists and ethnologists, as well as for physical anthropologists, are considerable. The focus on problems and processes connected with human migration appears to be promoting useful collaboration between these fields. A concrete specimen of a basic, well founded generalization is found in the brilliant chapter, "An Attempt at Synthesis" in Mourant's *Distribution of the Human Blood Groups*:

> The general uniformity of blood-group distribution over large populations and, even more, the close resemblance between populations known to have a common origin but to have been separated for many hundreds of years, tend to support the generally accepted hypothesis that a common origin between peoples leads to a long-maintained similarity in their blood-group distributions. The question is, how long?[36]

Thus, studies have now been done in which standard anthropometric measurements of the skull were employed, discontinuous traits on the skull, anthropometric measurements of the body, and serological characters. This diversity in materials and statistical treatments, but with common objectives in elucidating the evolutionary history of man, reflects a trend toward unity of a very durable kind.

The attention given to small contiguous groups in the above observations are viewed as supporting the eventual development of generalizations concerning common response of diverse kinds of human beings to similar environments. There is a vast research going on in the search for constants, examination of the applicability of Bergman or Allen's rule, etc., to human beings.[37] The examination of racially different peoples living under Arctic conditions is fully as important as

36 Mourant, 1954.

37 Coon, 1954; Hammel, Elsner, Le Messurier, Anersen, and Milan, 1959.

the examination of a single racial group living under diverse conditions which include sub-Arctic areas.[38] A survey of the entire field of physical anthropology would necessarily give much attention to these kinds of studies.

Bibliography

Anonymous
1951 *Blood Groups and Anthropology* (Nature, vol. 167, p. 705).

Barnicot, N. A.
1957 *Human Pigmentation* (Man, vol. 57, no. 144, pp. 114-120).

Boyd, W. C.
1939 *Blood Groups* (Tabulae Biologicae, vol. 17, part 2, pp. 113-240, Hague).
1950 *Genetics and the Races of Man* (D. C. Heath and Company: Boston).

Broman, George E.
1957 *Precondylar Tubercles in American Whites and Negroes* (American Journal of Physical Anthropology, vol. 15, pp. 125-135).

Collins, H. B., Jr.
1945 Review of "The Anthropology of Kodiak Island, 1944; The Aleutian and Commander Islands, 1945. By Ales Hrdlička" (American Journal of Physical Anthropology, n.s. vol. 3, pp. 355-361).

Coon, C. S.
1954 *Climate and Race* (Smithsonian Report for 1953, pp. 277-298).

Cotterman, C. W.
1947 *A Weighing System for the Estimation of Gene Frequencies from Family Records* (Contributions from the Laboratory of Vertebrate Biology, University of Michigan, no. 33, pp. 1-21).

Dobzhansky, Theodosius
1950 "The Genetic Nature of Differences Among Men" (in *Evolutionary Thought in America*, Stow Persons, ed., pp. 86-155, Yale University Press: New Haven).

Fisher, R. A.
1936 *The Use of Multiple Measurements in Taxonomic Problems* (Annals of Eugenics, vol. 7, p. 179).

Gray, Margery P.
1958 *A Method for Reducing Non-Specific Reactions in the Typing of Human Skeletal Material* (American Journal of Physical Anthropology, vol. 16, pp. 135-139).
1959 Unpublished paper on *Extraction and Concentration of ABO (H) Substances from Human Bone* (Read at the 28th Annual Meeting of the American Association of Physical Anthropologists).

Grüneberg, Hans
1952 *Genetical Studies on the Skeleton of the Mouse. IV. Quasi-Continuous Variations* (Journal of Genetics, vol. 51, pp. 95-114).

38 Wilber, 1957.

HALDANE, J. B. S.
1956 *The Argument from Animals to Men: an Examination of its Validity for Anthropology* (Journal, Royal Anthropological Institute, vol. 86, part 2, pp. 1-14).

HAMMEL, H. T., R. W. ELSNER, E. H. LE MESSURIER, H. T. ANERSEN, AND F. A. MILAN
1959 *Thermal and Metabolic Responses of the Australian Aborigine Exposed to Moderate Cold in Summer* (Journal of Applied Physiology, vol. 14, pp. 605-615).

HANNA, BERTRAM L., ALBERT A. DAHLBERG, AND HERLUF H. STRANDSKOV
1953 *A Preliminary Study of the Population History of the Pima Indians* (American Journal of Human Genetics, vol. 5, pp. 377-388).

HIERNAUX, J.
1956 *Analyse de la Variation des Caracteres Physique humains en une Region de l'Afrique Centrale: Ruanda-Urundi et Kivu* (Annales du Musee Royal du Congo Belge, Sciences de l'Homme, Anthropologie, vol. 3).

HOOTON, E. A.
1930 *Indians of Pecos Pueblo* (Yale University Press: New Haven).

KLUCKHOHN, CLYDE, AND CHARLES GRIFFITH
1950 *Population Genetics and Social Anthropology* (Cold Spring Harbor Symposia, vol. 15, pp. 401-415).

LAUGHLIN, W. S.
1957 *Blood Groups of the Anaktuvuk Eskimos, Alaska* (Anthropological Papers, University of Alaska, vol. 6, no. 1, pp. 5-15).

LAUGHLIN, W. S., M. P. GRAY, AND C. E. HOPKINS
1956-57 *Blood Group Genetics of the Basques of Idaho* (Proceedings, First International Congress of Human Genetics, Acta Genetica et Statistica Medica, vol. 6, pp. 536-548).

LAUGHLIN, W. S., AND J. B. JÖRGENSEN
1956 *Isolate Variation in Greenlandic Eskimo Crania* (Acta Genetica et Statistica Medica, vol. 6, pp. 3-12).

MAHALANOBIS, P. C.
1936 *On the Generalized Distance in Statistics* (Proceedings, National Institute of Science of India, vol. 12, p. 49).

MCKERN, THOMAS W., AND T. D. STEWART
1957 *Skeletal Age Changes in Young American Males* (Technical Report Ep-45, Natic, Massachusetts).

MOORREES, COENRAAD F. A.
1957 *The Aleut Dentition* (Harvard University Press: Cambridge).

MOURANT, A. E.
1954 *The Distribution of the Human Blood Groups* (Charles C. Thomas: Springfield).
1956 *Blood Groups and Human Evolution* (The Advancement of Science, no. 50, pp. 1-13).

MOURANT, A. E., A. C. KOPEC, AND DOMANIEWSKA-SOBCZAK
1958 *The ABO Blood Groups: Comprehensive Tables and Maps of World Distribution* (Blackwell Scientific Publications: Oxford).

MUKHERJEE, R., C. R. RAO, AND J. C. TREVOR
1955 *The Ancient Inhabitants of Jebel Moya (Sudan)* (Cambridge University Press: Cambridge).

OLIVER, DOUGLAS L., AND W. W. HOWELLS
1957 *Micro-Evolution: Cultural Elements in Physical Variation* (American Anthropologist, vol. 59, pp. 965-978).

PENROSE, L. S.
1954 *Distance, Size and Shape* (Annals of Eugenics, vol. 18, pp. 337-343).

POLLITZER, W. S.
1958 *The Negroes of Charleston (S. C.): a Study of Hemoglobin Types, Serology and Morphology* (American Journal of Physical Anthropology, vol. 16, pp. 241-263).

RAO, C. R.
1948 *The Utilization of Multiple Measurements in Problems of Biological Classification* (Journal, Royal Statistical Society, vol. 10, p. 159).
1952 *Advanced Statistical Methods in Biometric Research* (John Wiley and Sons, Inc.: New York).

ROBERTS, D. F.
1954 *The Cretans. A Geographical Analysis of Some Aspects of their Physical Anthropology* (Journal, Royal Anthropological Institute, vol. 84, pp. 145-157).

ROBERTS, D. F., AND J. S. WEINER
1958 *The Scope of Physical Anthropology and its Place in Academic Studies. A Symposium held at the Ciba Foundation, 6 November, 1957* (Wenner-Gren Foundation for Anthropological Research: New York, for the Society for the Study of Human Biology).

SACHS, LEO, AND MARIASSA BAT-MIRIAM
1957 *The Genetics of Jewish Populations. 1. Finger Print Patterns in Jewish Populations in Israel* (American Journal of Human Genetics, vol. 9, pp. 117-126).

SANGHVI, L. D.
1953 *Comparison of Genetical and Morphological Methods for a Study of Biological Differences* (American Journal of Physical Anthropology, vol. 2, pp. 385-404).

SANGHVI, L. D., AND V. R. KHANOLKAR
1949 *Data Relating to Seven Genetical Characters in Six Endogamous Groups in Bombay* (Annals of Eugenics, vol. 15, part 1, pp. 52-64: reprinted in Yearbook of Physical Anthropology, 1949 [1950] pp. 236-248).

SELTZER, CARL C.
1937 *A Critique of the Coefficient of Racial Likeness* (American Journal of Physical Anthropology, vol. 23, pp. 101-109).

SHAW, D. H., AND W. H. STONE
1958 *Seasonal Variations of Naturally Occurring Iso-Antibodies of Man* (Transactions, European Society of Haematology, Paper no. 206, pp. 724-732).

SIMPSON, GEORGE GAYLORD
1953 *The Major Features of Evolution* (Columbia University Press: New York).

SPUHLER, J. N., AND CLYDE KLUCKHOHN
1953 *Inbreeding Coefficients of the Ramah Navaho Population* (Human Biology, vol. 25, pp. 295-317).
1954 *Some Problems in the Physical Anthropology of the American Southwest* (American Anthropologist, vol. 56, pp. 604-625).

SULLIVAN, LOUIS R.
1922 *The Frequency and Distribution of Some Anatomical Variations in American Crania* (Anthropological Papers, American Museum of Natural History, vol. 23, part 5, pp. 207-258).

THALBITZER, WILLIAM
1941 The *Ammassalik Eskimo* (Meddelelser öm Grönland, vol. 40, Second part, Second half-volume).

WILBER, CHARLES G.
1957 *Physiological Regulations and the Origin of Human Types* (Human Biology, vol. 29, pp. 329-336).

WISSLER, CLARK
1922 *The American Indian* (Second Edition, Oxford University Press: New York).

WRIGHT, SEWALL
1955 "Population Genetics" (Lecture delivered at the University of Wisconsin).

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SEXUAL BEHAVIOR AND URBANIZATION IN A DANISH VILLAGE

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INTRODUCTION[1]

URBANIZATION as a process and its concomitant problems have received steadily increasing attention since Wirth intensified interest in the subject two decades ago.[2] This paper is concerned with the relationship between urbanization and some sexual practices in a Danish community.

In the 1890's, baseline for our investigation, this community was an island village of two thousand. Its whole way of life focused upon its harbor and maritime pursuits, especially merchant sailing and fishing.[3] Fourteen kilometers away, but on another island, lay the capital city of Copenhagen. Life there, however, was remote from the isolated, conservative villagers until the socio-economic changes of the 20th century joined village and city into a single urban agglomeration. Although the islands had long been connected by bridges, social amalgamation began only with the popularization of the bicycle at the turn of the century and a railroad connection in 1907. Between the two World Wars, when transportation became cheaper and better, the urban process quickened, and by mid-century a mushrooming population and housing boom had turned the village into a Copenhagen suburb. Its residents, goaded also by economic advantages, had long since turned their backs to the sea to become part of the urban labor market with irreversible orientations to the city.

Investigations of sexual behavior was a by-product of the principal study which centered on the dynamics of change. Data derive from a year's ethnographic fieldwork in the community in 1956-1957. Attention focused principally on social organization, and information was accumulated on the means by which the community had effected a demonstrably successful adjustment to urbanization, seemingly with minimal social conflict. As addition to our general knowledge of the community, we found ourselves amassing a considerable body of information on sex practices. The data looked promising and we augmented them insofar as we

1 The field research for this paper was financed by a Research Training Fellowship of the Social Science Research Council and was prepared for publication under Postdoctoral Fellowships of the National Science Foundation.

2 Wirth, 1938.

3 We do not here name the village which provides the locale for our study of sexual behavior. Communal description, however, is in no way fictionalized. While communal anonymity is never easily maintained, we have everywhere considered that maximum protection to the identity of specific informants was our foremost obligation.

could without jeopardy to the main project. Since the study of sexual behavior was not a primary purpose of the expedition, time as well as field rapport did not allow for quantitative investigation.[4]

The extent to which Scandinavia may be regarded as a single culture area with respect to sexual habits is yet to be determined.[5] There are considerable selective studies, few regional ones. In Norway, Melbye had a questionnaire on sexual problems filled out by four-hundred students who had been interned by the Germans in February, 1945.[6] In Sweden, Hofsten made a study of sex life based upon a questionnaire of one thousand recruits (half in their twenties and half in their forties) as well as the sexual behavior of 314 women as determined in interviews with their physicians, seven doctors participating.[7] Danish studies include that of 250 married couples recruited through a newspaper advertisement asking for volunteers willing to answer personal questions of marital and family circumstances.[8] Rather specialized studies were also carried out by Hartmann, who interviewed 227 women who had been checked for venereal disease during World War II after having sexual intercourse with German soldiers, and by Hoffmeyer, who interrogated 426 women seeking maternity aid in Copenhagen.[9] The most comprehensive work is that of Kirsten Auken, who intensively interviewed 315 Danish women on all aspects of their sexual background.[10]

In discussing the selection of informants for her study, Auken made the following observation:

> In comparison with the population of large countries such as the U.S.A., a country like Denmark has a quite uniform demographic composition. It is a question of a restricted geographical whole; broadly regarded, the population belongs to a single race. Everyone belongs, practically speaking, to the same church communion. Schooling is very uniform, at least as concerns grammar school. There are smaller economic differences than in most other nations. Even the transition from country to city is smooth, since rural inhabitants in recent decades have become more and more urbanized. However one would judge these circumstances, it is indeed clear that by international comparison it is a question of a very homogeneous population.[11]

4 Behavior in the 1890's was reconstructed on the basis of interviews held with people between sixty-five and eighty-three years of age. All interviews on sexual behavior attempted to elicit informant case history as well as observations and opinions.

5 Auken, 1953, p. 376.

6 Melbye, 1946.

7 Hofsten, 1944.

8 Gottschalk, 1947.

9 Hartmann, 1946; Hoffmeyer, 1951.

10 Auken, 1953.

11 *Idem*, p. 48. Translation here and in the following excerpts is by the present authors.

Auken's observations concur with more specific comparisons, as shown below, and while the case study herein described is not to be regarded as necessarily representative of other parts of Scandinavia as a whole, it may be taken in broad outline as typical of many Danish communities that have made the urban transition.

Data are examined and conclusions presented so as to point up the correlation between urban change and: (1) the meeting of the sexes, (2) courtship and marriage, (3) sexual intercourse, (4) sex and the family, (5) sex and class, (6) sex and religion, and (7) sanctions against promiscuity.

THE MEETING OF THE SEXES

In the day-to-day life of the village, the restrictions of work tended to separate the sexes. Yet often, despite job demands, nubile girls and young men found the occasion to cross paths, loitering here and there around the village while others, less romantically impelled, were busy with familiar chores. They also met, however, at times and places and under circumstances more formally defined by tradition.

Of these traditions, the "promenade" recurred most frequently. Wednesday and Saturday evenings, weather permitting (which would exclude the winter season), found most villagers indulging in a ritual-like exercise on the main street of the village. For an hour or more in the sun-bright evening, young people and old walked back and forth between the harbor and the church. Girls walked arm in arm. Boys, participating with less restraint, formed groups of their own, following the girls sometimes; and taking the initiative in conversation, lancing comments and witticisms at girls who caught their interest. These were girls whom the boys had known from infancy, often age-mates, but they were rediscovering them now as "girl-friends" (*veninder*). The girls reacted sometimes shyly, sometimes sharply to this virile new interest not yet fully distinguished from the play interest of childhood. Their awkward, yet pointed, exchanges were in contrast with the obvious enamor of promenading engaged pairs and the subdued deportment of the married couples.

The celebrations of the yearly cycle of fetes and the rites of passage also provided opportunities for the meeting of the sexes. The Christmas, New Year, and Shrovetide balls, which congregated the inhabitants according to class affiliations, offered the chance for couples to pair off and were the occasion for the beginning of many liaisons.

Finally, a public dance was held every Sunday night in one of the local inns or in a neighboring village. At a cost of 35 *öre* for the girl, 70 *öre* for the boy, one could dance from eight p.m. until midnight to the music of a small horn band. Although the girls had no refreshments, the boys drank beer and rum toddies. The

early part of the evening was devoted to round-dancing in a rather decorous manner. Between dances the girls sat on a bench along one side of the room, the boys along the other side. When the music started, the boys crossed the room to the girl of their choice, bowed and escorted the girl to the dance-floor, usually in complete silence. After the dance, the boy followed the girl to her bench, said "thank you," bowed and returned to the company of the other young men. As the evening wore on, however, round-dancing was abandoned for the isolation of couples embraced in the dancing of polkas and mazurkas, and the more daring young girls shared a drink with the men. Couples trying to stay together between dances, however, were frustrated by the intimacy of the group.

Young people did not usually have their parents' permission to attend these public dances until they were several years past confirmation, generally around eighteen years of age. Some of the boys became inebriated, and it was partly for this reason that many parents were reluctant to have their children attend. Some parents also feared undue intimacy between the sexes in clandestine rendezvous after the dance, and so forbade their daughters to go. Most boys, however, generally managed to get their parents' consent or attended without permission. As a rule, the girls from skipper or pilot families, the upper class, were never permitted to participate in these public dances, and the informal boycott of them was a matter of pride and propriety to their families.

It was almost exclusively through these dances that the community's youth came into formal social contact with neighboring villagers of their own age, and the evenings often ended in free-for-all fights between boys from the different villages. Other contacts were less boisterous, and intermarriages occurred, more often with young people from fishing families in coastal villages than with those from the inland farms, who by virtue of their Dutch ancestry and near-endogamy considered our villagers inferior socially as well as economically. While intermarriage was also frequent with fishing families from more distant harbors on the Sound in Sweden and Norway as well as in Denmark, these unions resulted from contacts of young men in irregular temporary residence in the various fishing centers during fishing season.

Many social activities were suspended in 1914 and after the war some customs were not revived. Among the war victims were the promenade and the seasonal village balls, activities which joined villagers of all ages. Young people turned instead to street-corner socializing, school activities, and commercial entertainment.

The most prominent survival is the week-end dance, now as then a business undertaking appealing exclusively to the youth group. Dancing behavior, however, has changed. After the first decade of the new century folk dancing was

replaced by paired-couple dancing, and the dances attract a heterogenous crowd in which the group cohesion of the old days is much weakened. As of old, however, the dances are notorious as centers where liaisons are reputedly made leading to casual sexual intercourse. As a result, many girls, regardless of class lines, are forbidden to attend. Boys too are frequently denied parental permission because of the heavy beer drinking and prevalent drunkenness. The opinion that these dances are undesirable for young people is now much more widespread, but there are still no definite sanctions against those attending and parents' wishes are often ignored.

In the evolution between the wars of separate activities for the young and a freer status of the young man and woman, a new element has emerged to partly replace the group diversions of the nineties—dating. Pairing off for an evening at the movies, a public dance, or a walk—activities once the privilege only of engaged couples—is now the pattern for new acquaintances. Places of amusement in Copenhagen, now regularly attended by dating couples, are also popular centers for the rapprochement of young men and women who are strangers, not only to one another, but to families and friends as well.

In spite of an increased independence within the group of individuals and couples, the peer group functions for youth as a primary reference unit. And as a reference group, youth is now left isolated from other age-grades by the disappearance of older joint activities.

COURTSHIP AND MARRIAGE

Various types of intersexual relationships were traditional to the village. The first clearly defined stage of pairing off was marked by the couple more or less exclusively seeking out each other's company. Such a couple were regarded as "going-together" (*gaa med*). Recognition was primarily by their age-mates and only indirectly by adults. Parents only acquiesced by not openly opposing the activity. "Going-together" could end in dissolution or advance to the next type, that of engagement or betrothal (*forlovet*).

Betrothal was a serious thing, and as a rule occurred only once in a person's lifetime. In spite of the seriousness attaching to it, the *forlovet* relationship was established quietly and without ceremony, after a period of going together for perhaps several months, but more commonly several years. The girl was generally at least sixteen years of age, the boy twenty. Only their families were specifically advised of their plans to marry, and a marriage date was rarely set.

Engagement ordinarily lasted at least one year and rarely more than five, at which time the couple established a new type of relationship, that of being "ring-

engaged" (*ringforlovet*) which itself could continue from a few months to a few years. Ring-engagement was initiated when concrete plans could be made to cope with the economic demands of marriage. The couple bought two simple gold bands, each with the fiancés' initials inscribed on the inside, and showed the rings to their parents—first to the parents of the girl. The rings were worn on the right index finger, and continued to be worn in the same way after marriage. Although the ring-engagement might be a surprise announcement, there was usually at least a hint of it in the air and often it was carefully planned and widely anticipated. A simple little coffee party with rum toddies for the men was commonly held in the home of the girl's parents.

The ring-engagement intensified and solidified the relationship between the young couple and anticipated relatives by marriage. The fiancé, who may or may not have previously eaten dinner at the home of his betrothed, now became a regular guest at the table of his future parents-in-law. The girl, too, dined regularly at the home of her fiancé's family. Although the practice may have begun during the period of engagement, it was now an unqualified rule that the parents of the betrothed should be called by the kinship terms proper to a married couple—"father-in-law" (*svigerfar*) and "mother-in-law" (*svigermor*)—in address as well as reference, with no modification to indicate that the marriage had not yet taken place. Similarly, the terms "brother-in-law" (*svoger*) and "sister-in-law" (*svigerinde*) were used in referring to the siblings of the betrothed, although in address first names were used. The betrothed were now so much a part of one another's family that each was always invited to the other's family occasions, such as baptisms, weddings, confirmations, birthdays, anniversaries, funerals, as well as to Christmas festivities and other seasonal parties.

It was desirable, and commonly achieved, for the couple to acquire the necessary equipment before setting up housekeeping. The girl may have been accumulating things for years, embroidering tablecloths, knitting towels, and so on. But now the couple entered upon the more difficult task of getting furniture. Ideally they were to acquire before marriage enough to furnish a whole house or apartment, and minimally, a bedroom and front-room set. Generally, the furniture for one room was acquired before starting on the next, first the bedroom, then the front room.

The final relationship entered into was marriage. In the 1890's, the girl who married a young fisherman from a poor family could expect only a very simple celebration. Bans would be announced for three Sundays by the priest and the wedding would occur in church, but only close relatives and friends would be invited. The number was kept between ten and twenty. In the afternoon after the

church rites, the wedding party had a roast-pork dinner at the home of the bride. No musicians, no dancing, and few speeches enlivened the gathering. The party broke up at midnight and the newlyweds were free to retire to the small apartment or house that would be their home.

Weddings of the better-off were quite another thing. Some weeks in advance young girls within the bride's family, or the young domestic, "went around and invited" (*gik rundt og bi*) to two or three places each afternoon, reciting a standard invitation, such as "I am to greet you from Pilot-bookkeeper Palm and wife to ask if you will come to the wedding of their daughter, Marchen, and Ship's Master Taarnby, the sixteenth of October." (*Jeg skulde hilse fra Lodsbogholder Palm og frue om De ville komme till bryllup hos deres datter Marchen og Skibsförer Taarnby den 16. oktober.*) Most accepted the invitation, but if some could not they were replaced by others until a full house of about one hundred guests had been assured.

Only invited guests attended the church ceremony. Rings were not exchanged, this having been done when the couple became "ring-betrothed," and the short ritual, starting at four p.m. was over by four-thirty. Dinner was served afterwards in a rented banquet room. Porcelain, silverware, and table cloths were borrowed for the occasion from relatives and friends, the hired rooms having neither kitchen nor table-equipment. For the preparation and serving of the meal the bride's parents' siblings had been invited as "cooks," the men fetching the roasts from the bakery where they were prepared and carving them while the women added potatoes and gravy.

The dinner was festive. First rice porridge was eaten, each man and wife eating this course, but only this one, from a plate shared between them. The meat dish was always a roast, and the dessert was almond cake *(kransekage)*. A sour red wine, to which sugar was added, was considered proper to the main course, port wine to the cake—wines having replaced beer as more fitting for the then "modern" decade of the 'nineties. Glasses were raised frequently in toasts to the bridal couple, their parents, and more honored guests. A four-man horn orchestra accompanied the singing of songs, the words composed by a friend or relative and printed with illustrative drawings. The unprinted melodies were old and familiar.

After the long dinner, the musicians played, leading a procession out of the building and through the winding streets of the village. The whole wedding party followed, regardless of the weather. By the time they returned to the hall, it had been cleared for dancing, with two tables set up for punch, one bearing a rum punch for the men, another a mild red-wine punch for the ladies. At least once during the evening, each man dropped a crown or more into a bowl on the floor in

front of the musicians to ensure continued good music. The bridegroom and the fathers of the couple made especially generous contributions. At eleven, a table was set up where coffee and cake, and glasses of rum (for the men), were served in shifts until all had eaten. Dancing continued. At two a.m. kale stew *(grönlangskaal)* and beer in pewter-topped steins fortified the celebrants who continued in high humor until five or six in the morning.

Festivities continued the next day with the "second day's wedding" *(anden dags bryllup)* held in the home of the bride's parents. Only the closest relatives were invited, and the dinner this time was served by the siblings of the bride and bridegroom. The last wedding event was the so-called "cooks' wedding" *(kokkebryllup)* when dinner followed by coffee was served for those who had acted as cooks on the first wedding day. This party always took place on the subsequent Thursday.

The types of institutionalized relationships enumerated for the 'nineties still exist, but there have been significant changes. The general trend to greater individual freedom in social attachments is associated with a greater number of alliances per individual. There are many more brief encounters and less permanence, through a higher frequency of "going-together" relationships. Engagement is now less stable, so that individuals are commonly betrothed several times before the final ring-engagement and marriage, and the ring-betrothal, formerly binding, may now be broken. The economic aspects of ring-engagement are less pressing. Couples can now obtain furniture with only a down payment and a committal to make monthly installments. Ring-engagement continues, however, to inaugurate intimate social relations with future affinal kin.

Although the church wedding ritual remains essentially unchanged, other customs formerly associated with weddings have been greatly simplified to conform to standards set in the capital. Many now forego the church rite for a civil ceremony. After approximately 1910 it ceased to be the custom to "go around and invite"; the wedding party became limited to a single day; relatives stopped acting as "cooks"; and the parade through the village ended.

SEXUAL INTERCOURSE

Ideally, sexual intercourse was considered the exclusive privilege of married couples. Premarital intercourse, however, flourished.

The majority of the villagers of the 'nineties experienced coitus before marriage, the girls generally only with one person, the man they ultimately married. It was assumed that a ring-engaged couple would have sexual relations, although no regular, sanctioned opportunity was provided them and they did not cohabit. This

intimacy was regarded, even by the parents of the couple, as normal and expectable and it was assumed that they would find occasion for it. Opportunities varied. The boy might sneak into the girl's room if she slept apart from brothers and sisters; they might go late at night to the park or to the harbor by the beached boats.

In 1880 Rubin and Westergaard found that in fifty country parishes two-thirds of the brides had a child before, or within a month after, the wedding. This custom derives from a still earlier period when cohabitation was sanctioned by betrothal rather than marriage. It was usual among the 16th century Danish peasants for a man to live with his fiancée *(faestemõ)* on their future farm up to six months before the wedding. The wedding was itself only a voluntary, optional repetition of the vows of betrothal until 1582, when it became mandatory, and the engagement was not stricken from the law books as the official inauguration of married life until 1799.[12] A hundred years later the sentiment was still widespread that sexual life began with engagement.

In other parts of Scandinavia the engagement was similarly regarded as sanctioning sexual relations. Ödegaard maintains that it is an ancient Norwegian custom for villagers to inaugurate sex life while engaged, with the wedding possibly precipitated by the onset of pregnancy, while Wikman and Berg and Svensson describe similar traditions in 19th century Sweden.[13]

In the contemporary village, coitus in ring-betrothal is unofficially condoned as of old, but it has become more clearly acceptable for non-ring-betrothal as well. Since sexual intimacy is sanctioned for betrothed couples, and since betrothal is simply an oral agreement between the two young people costing neither time nor money, it has become common for a person to be "engaged" several times before marriage in order to clothe the act with respectability. In recent years "to be engaged" so nearly implies "to engage in sexual intercourse," that the term has become blurred; often when referring to betrothal one is referring rather to a couple being sexually intimate.

During the 1940's Auken intensively interviewed a random sample of 315 Danish women about their sex lives. Her findings indicate that our village continues to be representative of general Danish practice. Of the 315 women twenty years of age or older, 31 (9.8%) have never had sexual intercourse. Of the remaining 284, 98.6% indicated that the first coitus was outside of marriage. The surviving role of engagement as inaugurating married life is suggested, however, by the finding that 51.7% of the women were either engaged or ring-engaged at the time of their first copulation, and 65.1% believed that their first affair would

12 Troels-Lund, 1915, p. 10.

13 Ödegaard, 1941; Wikman, 1937; Berg and Svensson, 1934.

lead to marriage.[14] Fifty percent (143 women) had had two or more affairs of sexual intimacy, and of this group 26.7% were engaged to the second man with whom they had sexual relations. Of the 21.8% of experienced women who had had three or more affairs, only 8.1% were engaged.

The Youth Commission report of 1952 for the whole of Denmark is equally pertinent.

> There is no doubt that the official sex morality is only lived up to by a very restricted portion of the young people, and that the vast majority of young boys as well as young girls inaugurate sexual relations before marriage. Many, however, do it with serious scruples and consideration. A significant number, moreover, only have sexual intercourse before marriage with the person whom they later marry.[15]

SEX AND FAMILY

The basic socio-economic unit of the 1890's was the nuclear family. Divorce was difficult to obtain legally and strongly censured by local opinion. The divorced person was a rarity, was not received in many homes, and was excluded from membership in some social groups. Adultery in the village was regarded as highly reprehensible. It was so covert and rare that incidence of it is undocumented for the last decade of the century. (The patronage of prostitutes in foreign ports had no direct relevance for village life.)

The integrity of the family was further guarded by the severe ostracism of unmarried mothers. A woman encountered no difficulty, however, if a pregnancy occurred before marriage but in betrothal, especially ring-betrothal, and couples hitherto only spuriously joined were pressed to announce engagement when a pregnancy occurred. This strategem and sanctions levied against illegitimate childbirth served, though only by implicit extension, to delimit premarital promiscuity to the established channels.

The current premarital sex code is correlated with a profound alteration in the character of the marital union. Divorce is common and adultery is no longer rare nor so covert as in the 'nineties. Ten percent of the married women in Auken's national sample admitted to adultery.[16] In various accounts of contemporary "sex parties" in our community, some include examples of wife-exchange for a night, a development which would have been inconceivable fifty years ago and significant, even in its rarity, as an indication of the great change in sex and marriage. The old sanctions on unwed mothers have greatly diminished, and illegitimate children are no longer a rarity.

14 Auken, 1953, pp. 159, 170.

15 Ungdomen og fritiden, 1952, p. 23.

16 Auken, 1953, p. 214.

The nuclear family is still the basic social unit of the community even though it is no longer a primary work unit. The daily dispersal of its members and other urban-derived exigencies have watered down its integrity, however, and the family shows significantly mounting impotency in the supervision and care of its members. As in the rest of Denmark, broken homes are associated with personal and social maladjustments.

These problems are being met with characteristic Scandinavian practicality. New sanctions have been invoked in the form of national laws regulating divorce, limiting abortions, and punishing adultery. They are notable for their limited effectiveness. The problem is also being met by structural-functional adjustments. Institutional care is provided for unwed mothers and unwanted children, and broken homes receive governmental supervision and aid. These adjustments bring only ameliorative relief, however, and the malfunctioning modern family remains a serious socio-cultural problem.

SEX AND CLASS

Since marriage might derive from an unplanned conception, the upper economic class had a greater interest in inhibiting sexual license than the lower. It was economically preferable for the former to restrict marital unions to comparable occupational categories by careful marital management. This was accomplished by a more careful surveillance of upper class girls. They were forbidden to attend the Sunday night public dances, for it was common knowledge that young people regularly paired off to spend an intimate hour in the town park, on the beach, or elsewhere. The female component of the public dance set was middle and lower class. This is not to say that parents of these classes were without concern about the sexual activities of their daughters. On the contrary, in moral matters they typically related to upper class behavior as an ideal. Even in the lowest class, many would not allow a girl to attend until she was seventeen or eighteen, and even then meted out harsh discipline if the girl came home later than a quarter past twelve, fifteen minutes after the last dance. The feature which distinguished class attitude was that upperclass parents were unwilling to risk the involvement of their daughters in even the chance of an ill-advised sexual experience, whereas the lower classes more willingly compromised with the desire for amusement.

Parents of all classes now have less authority over their children's activities than formerly, yet one still finds upper class homes in which considerable restrictions are maintained.

In modern Scandinavia as a whole, evidence points to a tendency for sexual behavior to be more inhibited in the upper classes than in the lower. Thus, Jonsson

divided his Swedish sample into three classes, and found that sexual intercourse before the age of twenty was experienced by 45.5% of the upper class, 69.5% of the middle class, and 80.1% of the lowest class men.[17] In Denmark, Auken similarly found that sexual relations begin earlier in the lower classes than in the upper. She also noted the tendency for a larger percentage of women with more than one affair to occur in the lower than in the upper classes. For example, of sexually experienced women, 64.0% to 73.3% of women whose fathers were academic people, independent business men, or permanent civil servants had had only one affair, whereas those from the working class with only one affair amounted to only 36.2%.[18]

Even if sexual inhibition continues to characterize the upper class of our community, however, a lessened effect must be noted in the sense that the upper class now constitutes a smaller proportion of the total population, since both upper and lower classes have shrunk in size relative to the growing middle class. The upper class, it also seems clear, has lost ground to the middle as the exponent of ideal behavior.

SEX AND RELIGION

Christian belief was accepted without question, and without enthusiasm. Only a small portion of the community attended regular Sunday mass. The church, however, was periodically prominent. Virtually every one was baptized, confirmed, married, and buried by the priest. Most of the villagers attended the Christmas, New Year, and Easter services when public offerings were made by the head of each family.

Religion was cherished for its ritual and for its solace and comfort. The characterization of God as an avenger, a disciplinarian, or a judge appears to have had small acceptance for the average villager. His language sometimes violated the second commandment (as defined by Martin Luther's Little Catechism); his Sunday activities the third; his thoughts, speech, and actions might betray the ninth and tenth; and his premarital sexual activities the sixth—but, these transgressions were equally regarded with almost ingenuous equanimity. With respect to sexual behavior in particular it was commonly felt that the young people were too weak to resist such strong natural impulses, and that so long as no harm was done to anyone it should not be regarded as a matter of serious concern. Religion played an important role in social life and was a conventional refuge in moments of need. But its communal role did not necessarily impose ethical prescriptions or moral sanctions on behavior.

17 Jonsson, 1951, pp. 205-213.

18 Auken, 1953, p. 64.

In the present community, church activity has declined further. Confirmation, marriage, and interment are now frequently purely civil ceremonies and even seasonal church attendance has fallen off. The minor role of the church in the community, as in all of Denmark and Scandinavia, is associated with a lack of widespread religious influence upon interpersonal relationships. The minority of active Christians, however, do place moral restrictions upon sexual behavior, although they do not necessarily regard sexual intimacy in engagement as sinful.

The inhibiting effect of religion on the *active* Christian has been stressed in a Danish and a Norwegian study. Auken observed that of the 250 members of her Danish sample who gave usable answers, premarital sexual intercourse was considered justifiable by 92.2% of the non-religious women, 83.1% of the passively religious, and only 62.7% of the actively religious. Similarly, the opinion that sexual intercourse was justifiable without being engaged to be married was held by 51.6% of the non-religious, 30.8% of the passively religious, and 20.5% of the actively religious.[19] Melbye found in Norway that of the 400 students studied, premarital intercourse had been experienced by one-third of the inactive Christians but only by one-tenth of those with a positive religious orientation.[20] These findings for Denmark as a whole and for Norway are in basic agreement with observations made in our locality, but should not obscure the fact that the number of active or positive Christians is not large, and hence the moral influence of the church is not great.

SANCTIONS AGAINST PROMISCUITY

Sexual activity was regarded as natural and therefore not innately wicked. Only the blatantly promiscuous girl who indulged simultaneously or serially in a number of affairs was ostracized, she and her relatives subjected to gossip and shame. Marriage, however, terminated moral reproach, which in any case, was never extended to the children. Only in cases of persistent defiance of social customs would a woman be subjected to long-term ostracism. One woman who had two illegitimate children was avoided by her neighbors and publicly chastized by the priest when her second baby was baptized. It seems clear on the whole that the primary social irritant was children without families rather than sexual experimentation. Adultery was regarded as unthinkable.

Although religious or social ethics were largely ineffectual, ignorance and fear did inhibit promiscuity. Girls were kept from knowledge of anything having to do with sex. Mothers were careful never to undress completely in front of their children, and even the most elementary facts of conception, pregnancy, and birth

19 *Idem*, pp. 369-373.

20 Melbye, 1946.

were often unknown to pre-marriage girls. One mother of six reported that at the time she was carrying her first child, conceived during her engagement, she did not even know "where it would come out."

On the other hand, it was common knowledge that women and infants died in childbirth. No method of pain-relief was used by the village midwife, who was notorious for her indifference toward hygiene and solace. Her dolorous counsel to the woman in labor was "it will get worse." Large families of eight, ten or twelve children were nevertheless customary despite anxiety and awareness of the economic hardship entailed in their upbringing. Although men were generally unwilling to employ the only forms of effective contraception known, coitus interruptus or the condom, which was regarded as expensive and inconvenient, fear of the physical and economic consequences of pregnancy appears of itself to have significantly discouraged copulation only in informal unions. Her socially instilled duty to submissive obedience appears to have been the major consideration in a woman's consent to first coitus, a duty felt in betrothal as well as marriage. Her own biological inclinations, then as now, would not normally seem to have been decisively motivating in the inauguration of sexual intercourse.[21]

Reliable estimates of the effect of these sanctions was impossible to obtain. Some informants describe a youth of considerable sexual experience while others insist upon the former chastity of themselves and of the majority of their acquaintances. Upper class informants frequently attribute a sexual laxity to the lower class, which some of the latter deny. The concensus of informants' experiences and opinions, however, permit us only to say that both male and female promiscuity occurred regularly.

Casual encounters without even pretense of sufficient longevity to be called betrothal, while probably not typical of the majority of young people, are now nonetheless frequent, and sexual intimacy in a succession of engagements is common. These increases in overt premarital sexuality are correlated with an extensive breakdown of the sanctions formerly imposed and by a new predominance of the sanction of the youth group on a promiscuous moral code.

The effectiveness of the sanctions of fear and ignorance was largely destroyed by a new knowledge. Respect for knowledge is a generic Danish trait which facilitated the spread of new ideas, in part on the communal level through schools and public programs. Medical developments dissipated fear of childbirth, and developments in contraception diminished the possibility of unwanted pregnancy. Knowledge of contraceptives is fully disseminated. Girls as young as fourteen or fifteen

21 Cf. Auken, 1953, p. 180; Hoffmeyer, 1951, p. 569.

sometimes apply to the local physician to be fitted for diaphragms, and the ideal of some prescribes that contraceptive articles should be kept ready in handbags or wallet whenever on a date or at a party. Male as well as female devices are explained and distributed by state outlets for rubber goods which advertise in color in the local cinema. Should pregnancy occur, governmental institutions provide for the unmarried mother during gestation and parturition and can arrange for the child to be given in subsequent adoption. Most girls, however, appear to prefer an abortion which, although difficult to get legally, is often otherwise manageable for a fee. (Fenger and Lindhardt noted an enormous increase in the number of abortions in Denmark as a whole.[22]) In this new atmosphere of unrestricted knowledge, the community smiles indulgently at the naivete and secrecy of its 19th century years.

The separation of youth activities from other age groups facilitates enforcement within their social circle of the ethic of sexual liberality. In their social isolation, the sanction of ostracism that formerly operated on the communal level to enforce traditional conformity now operates within the youth group for conformity to the ideals as expressed, in part, in movies and magazines. Hoffmeyer made the following remarks about his Danish sample of girls seeking help in Copenhagen:

> A majority of the women who seek maternity help *(mödrehjaelpen)* had their first sexual experiences at the age of 17 or 18. Not a few women appear to have submitted to it unwillingly—although for a number the unwillingness was camouflaged by a drive to be up to date and to satisfy themselves, which is "good tone" in the circle of friends. One has the impression that a spontaneous need for early sexual intercourse rarely exists. On the contrary, many seem to have been characterized by ambivalent and negative attitudes towards sex.[23]

SUMMARY AND CONCLUSIONS

The turn of the century brought decisive years in the community's adjustment from a village where life centered upon harbor and sea to suburbia where activity focused upon the capital city. By World War I the symbols of village integrity were effaced by symbols of the city as, increasingly, identification with Copenhagen pervaded social as well as economic activity. The disappearance of village balls, class-defined societies, the communal promenade, the wedding parade, and church gatherings in which all families were regularly represented, was simultaneous with the cultivation of new diversions and broader social allegiances. In the realm of sexual behavior too, urban ways became local ways.

22 Fenger and Lindhardt, 1952.

23 Hoffmeyer, 1951, p. 571.

The general evolution in sexual practices may be regarded as typical for Denmark and are summarized as follows:

1. *The meeting of the sexes.* During the village period, youth socializing was in activities which included adults and children. Today the community's youth finds diversion in age-graded groups which exclude adults and children.

2. *Courtship and marriage.* The types of formalized relationship continue to be "going together," engagement, ring-engagement, and marriage. Formerly, all but the first were serious unions, rarely broken once contracted, and ring-engagement created strong kinship and economic ties. The wedding was frequently a three-day event. Now individuals are commonly engaged several times and ring-engagement may be broken without notable social consequences. The wedding has been secularized and simplified.

3. *Sexual intercourse.* For the villagers premarital sexual intercourse was the privilege of the ring-engaged in what amounted to monogamous union. Now, sexual intercourse is also widely regarded as acceptable in non-ring-engagement. The modern instability of both engagement forms, however, results in tacit approval of serial sexual liaisons and a *de facto* system of trial marriage.

4. *Sex and religion.* For a vast majority, religious ethics had and have no influence on sexual behavior.

5. *Sex and class.* Formerly the upper class was particularly vigilant against premarital promiscuity. Now, though class differentiation persists, the influence of the upper class as arbiter of ideal behavior has been reduced.

6. *Sanctions against promiscuity.* Premarital promiscuity was discouraged in the village's ostracism of loose girls and unwed mothers, and by the inhibiting effect of fear and ignorance of sex and childbirth. Ostracism was also effective against divorce and adultery. Now, education has mollified fear and effaced ignorance. Public opinion is less concerned with sexual transgressions and unable in any case to ostracize effectively the urban individual who is no longer socially limited to the local face-to-face community. Loss of former sanction was correlated with the social isolation of the youth group. This social unit enforces its own ethic of sexual freedom by imposing ostracism within the age-grade.

7. *Sex and family.* The nuclear family, the basic socio-economic unit in the village, was protected by strong sanctions against divorce, adultery, and unwed motherhood. Legal sanctions and governmental institutions are urban replacements of the defunct sanctions but have had only limited success. Familial stability has been greatly weakened by divorce, adultery, and unwed motherhood (as well as by other factors, to be sure). This lost integrity appears to constitute a serious

disfunction relatable to changed sexual practices, for the nuclear family continues to function as the community's key social unit.

Bibliography

Auken, Kirsten
1953 *Unge Kvinders Sexuelle Adfaerd* (Copenhagen).

Berg, G., and S. Svensson
1934 *Svensk Bondekultur* (Stockholm).

Fenger, M., and M. Lindhardt
1952 *Om antallet af aborter i Danmark 1940-1950* (Ugeskrift for Laeger, vol. 114, p. 617).

Gottschalk, H.
1947 *Moderne aegteskabsproblemer* (Copenhagen).

Hartmann, G.
1946 *The Girls They Left Behind* (Copenhagen).

Hoffmeyer, H.
1951 *Anticonception* (Ugeskrift for Laeger, vol. 113, p. 569).

Hofsten, I. von
1944 *Ungdomens sexualvanor* (Svenska läkartidenda, vol. 41, p. 1158).

Jonsson, G.
1951 "Sexualvanor hos svensk ungdom" (in *Ungdomen möter samhället,* Ungdomsvårdskommittens slutbetänkande, Stockholm).

Melbye, C.
1946 *Studentmoral* (Universitas, Oslo, no. 7-8).

Ödegaard, Ö.
1941 *Samlivets naturlaere* (Oslo).

Troels-Lund
1915 *Dagligt liv i Norden i det sekstende århundrede* (vol. II, 4th ed., Copenhagen).

Ungdomen og fritiden
1952 *Betaenkning af givet af Ungdomskomissionen* (Copenhagen).

Wikman, R.
1937 *Die Einleitung der Ehe. Eine vergleichende ethnologische Untersuchung über die Vorstufe der Ehe in den Sitten des schwedischen Volkstums* (Åbo).

Wirth, Louis
1938 *Urbanism as a Way of Life* (American Journal of Sociology, vol. 44, pp. 1-24).

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STRUCTURAL FEATURES OF NORTHWESTERN ALASKAN ESKIMO KINSHIP

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THE PURPOSE of this paper is two-fold: to present a concise summary of the essential structural features of the kinship systems found among the Inupiaq-speaking people of Alaska, and to introduce a classification based on the manner of status allocation. Because neither of these ends will be furthered by elaborate detail, the presentation is schematic and abbreviated. The focus is upon the statuses that are central to the system, with de-emphasis of peripheral structural details and terminological variations. This "stripped down" abstraction does not do violence to the functional reality of the actual kinship systems.[1] It is, in fact, the real framework within which the people concerned operate. The average Inupiaq-speaking Eskimo is neither well informed nor much concerned with the finer details of kinship matters, but he is well acquainted with the structural features and role expectation of those statuses that are central to the system. This central core of knowledge is what orders day-to-day living,[2] and it is this central core that is being presented here.

The material was gathered during the period 1944 to 1955.[3] Data for Wales, Shishmaref, Noatak, Kivalina, Point Hope, Wainwright, Barrow, and Diomede was collected in situ. The information for Anaktuvuk Pass, Kobuk, Selawik, Cape Espenberg,[4] Fish River, and King Island was obtained at Nome, Kotzebue, Noatak, and Bettles from informants who were born and brought up in the areas for which they supplied information. The areal extent of the study is coterminous with the Inupiaq language[5] in Alaska, i.e. northward and eastward from Norton Sound wherever Eskimo is spoken. This includes King Island and the Diomedes, the

1 For the purposes of this paper "systems" will refer to the accepted norms of arrangement at any one locality, whereas "structures" will refer to analytic concepts that underlie general forms of organization.

2 There are, of course, local kinship experts, but even they resolve matters of ambiguity and conflicts of structural detail pragmatically and as they go along.

3 Part of the field work was supported by the University of Alaska. A significant part of it would not have been possible without that support and without the interest of Dr Ivan Skarland, Head of the University's Social Science Department.

4 As a result of migration to large population centers, Fish River and Espenberg are no longer functioning communities. Information on the latter was obtained from a single informant, but in all other cases there were at least three separate informants.

5 Purposely, because the writer has no competence in the Yukpik language. But some, at least, of the structural features described in this report do extend southward into Yukpik-speaking territory.

Kobuk and Noatak watersheds, and the treeless area from the Brooks Range northward. Within this area the data are probably completely representative of all structural arrangements that obtain. The data on hand for the Koyuk-Unalakleet, Teller-Imruk Basin, Deering-Buckland, and Noorvik-Kiana sub-areas are not sufficient for presentation, but they show no indication of any structural or functional arrangements that are fundamentally different from those presented in this paper. This negative indication is strengthened by the fact that each of these sub-areas of insufficient information is surrounded by or contiguous to communities from which information is sufficient. It is highly unlikely that future research will uncover any structural features within this area that are fundamentally different from those outlined in this presentation.

BASIC SIMILARITIES

The presentation is in terms of significant specific differences found among the various systems. Underneath these specific differences, however, there are basic similarities of principle, function, and structure. These basic similarities can be summed up with the statement that each individual is the center of a small concrete kinship structure which in turn is surrounded by a very extensive contingent structure of potential kinship. Another way of summing it up is by use of the Bering Straits term, *natqua,* 'its possessed' or 'its own', which, in kinship contexts, is used automatically with reference to siblings, first cousins, parents, grandparents, consanguineal aunts and uncles, first degree nepotics, children, and grandchildren, and also with respect to those slightly more distant relatives who actually and functionally interact in the same manner and degree as automatically *natqua* kin should.

Either statement is expressive of the following facts. Each individual is surrounded by a close-knit network of kinfolk with whom he has clearly defined relationships that are unavoidable. Outside of this narrow range of nonoptative statuses and roles there is a circle of definitely known relatives, who may well be connected to him in several ways, with whom he ought to interact in one or another defined way. If, with respect to these latter relatives, he conforms to the "ought" of his culture, he has some choice as to which genealogical connection he will validate. Pragmatically this means that the two individuals involved have some choice as to what roles they will discharge with respect to each other. And beyond this circle of near-distant relatives, there is the whole of the rest of the individual's society, however extensive or restricted that may be. Beyond the circle of immediately known genealogically connected people there is a very large circle of potential relatives—people with whom genealogical connections are not known, but with respect to whom there is always the possibility of setting up defined relationships.

This, the contingent structure of potential kinship, is extremely important for inter-areal interaction. For Eskimo society in its wider sense this unstructured but widely ramifying network of potential kinship is very functional. What it amounts to in practice is that, given the cultural "ought" of cherishing genealogical information, it seldom happens that two previously non-related individuals who have a need to define and structure their interaction will not be able to find some genealogical connections to serve as sanction for a functioning kinship relationship. The methods by which this is accomplished are extension and equation—extension of *natqua* terminology, status, and role to distantly connected relatives, and equation of one kind of relative with another. Equation can be of several sorts: lumping of affinals with consanguineals, using alternate genealogical connections, coalescing generations, or the assumption of biological connections without positive proof. These operational methods or principles have, then, the consequences that, on the one hand, the individual has considerable freedom in constructing his own kin group, and, on the other hand, the same individual may quite properly be placed in any one of several categories vis-a-vis the same referrant. Placement, however, is not idiosyncratic. There are norms, differing from one locality to another, prescribing which people must be placed in what category, which categories are more applicable in particular cases, and which placements ought not or may not be made. Depending, then, on locally accepted norms of proper methods of placement and role discharge, various systemic arrangements emerge. These systemic arrangements can be classified according to structure.

THREE-COUSIN SYSTEMS

One relevant distinction is the contrast between three-cousin structure and two-cousin structure. The three-cousin structure defines siblings, extended siblings, and cousins. Cousins can be patrilateral, matrilateral, or cross, depending on the sexes of the parents of Ego and reciprocal. Siblings and extended siblings (i.e. all cousins, regardless of kind of cousinship) are further classified as to relative age and the sexes of Ego and reciprocal. Extended siblingship does not conflict with cousinship, i.e. if the relationship is construed as one of cousinship its nature depends upon the sexes of the parents of the two people concerned, but this same genealogical connection can be construed as an extended siblingship, and then the type of relationship will be determined by the sexes and ages of the two people themselves.[6] Diomede, King Island, Wales, Shishmaref, Selawik, and Kobuk have three-cousin systems, and so did Fish River and Espenberg. At Barrow and Point

6 Giving rise to "brother of a female" and "sister of a male", statuses that usually are not found in two-cousin systems.

Hope the ideal is still the three-cousin structural arrangement, although a great deal of interaction is now carried on in terms of the two-cousin structure. There is strong indication that Noatak formerly had a three-cousin system. Historically there seems to have been a correlation with permanent winter villages.

TWO-COUSIN SYSTEMS

In the two-cousin structure extended siblingship is not so strongly developed as it is in the three-cousin structure; first cousins are often equated with siblings, but beyond that the distinction between cousins and siblings is fairly clear. Cousins are of two kinds, either male cousins or female cousins, without reference to the sexes of the parents. Siblingship is then also broken down further as to sex and age, but there is not, as is the case with the three-cousin structure, a category of relationships determined solely on the basis of the sexes of the two siblings themselves. The two-cousin structure is historically correlated with the impermanent dwellings of the migratory groups given to caribou hunting, the Silaliqamiut,[7] who formerly exploited the watersheds of all the rivers that flowed from the Brooks Range through the tundra to the Arctic Ocean. The migratory way of life is gone, but two-cousin structural arrangements are found wherever the now sedentary descendants of the Silaliqamiut form a large percentage of the population. At Noatak, Kivalina, Wainwright, and Anaktuvuk Pass the two-cousin arrangement is standard, and at Barrow and Point Hope it is a valid, even if not the ideal, way of structuring kinship.

AFFINAL STRUCTURE

Another relevant contrast is that between "affinal excluding" and "affinal incorporating" structures. The affinal excluding structure is that method of kin arrangement whereby all of spouse's ancestors and collateral ancestors are lumped into the category of affinal[8] and kept strictly separated from all consanguineals of Ego. The affinal incorporating structure is essentially a method of kin placement wherein all affinals except (in addition to spouse) child-in-law, parent-in-law, sib-

7 Literally, 'the open air dwellers', 'the people of the great outdoors', i.e. the migratory caribou hunters who had no permanent residences. These people were then subdivided as to the river system they exploited—Utokokmiut, Kikilmiut, etc.—just as the Tariamiut (salt water people) and the Napaxtamiut (woodland people) were designated with reference to the localities where they spent the greater part of the annual cycle. The Silaliqamiut, especially the Anaktuvuk Pass group, have entered the literature as Nunamiut. In view of the fact that Silaliqamiut has a slightly pejorative connotation, this is fortunate, but it makes for imprecision and confusion. In native usage Nunamiut can mean (a) mainland dwellers as opposed to island dwellers, (b) inland dwellers as opposed to shore dwellers, (c) any group that dwells inland or depends more upon the land than does the group that serves as the base of reference.

8 Specific affinal status distinctions are made (see *niŋuaŋa*, p. 126, *sakgiia*, p. 124) but these are recognized as belonging to the larger class of affinals.

lings- (or first cousin-) in-law, and co-affinal can be, and more often than not are, merged with the corresponding consanguineals. The former structural pattern is standard at King Island, Diomede, Wales, and Shishmaref, and it is the ideal pattern which still lives in the minds of the erstwhile residents of Fish River and Espenberg. The affinal incorporating structure is the prevailing pattern in the other eight villages for which data are presented.

THE DATA

The method of presentation that follows is by status and allocation. The status is listed on the left in small capital letters with the Eskimo term, or terms, directly below in lower case letters. Where more than one is given without parentheses, they are terms of equal currency, while terms in parentheses indicate infrequent alternate designations of the status. The right-hand column contains information pertaining to the status and the method of allocating personnel to it. The people who can fill the particular status are listed (in blocks separated by colons) in a descending order of those to whom the status is automatically ascribed, those who often or usually are placed into the status, and lastly those people who may at times be placed in this category. The affinal excluding versus affinal incorporating distinction is being used as the main axis of classification, and the three-cousin versus two-cousin distinction will therefore appear only in the information in the right hand column.[9]

The statuses of the *affinal incorporating structure* are:

GREAT-GRANDPARENT
amaulua[10]
amauŋa

biological g-g-parent of either sex: spouse's biological g-g-parents: sibling or cousin of primary[11] amaulua and their spouses: siblings, cousins and spouses of secondary amaulua.

9 An alternate form of presentation (vetoed because it is more space-consuming and less revealing of processes and functions) would be: Affinal excluding systems, all of which have the three-cousin structure—Fish River, King Island, Diomede, Wales, Shishmaref, and Espenberg; two-cousin systems, all of which have the affinal incorporating structure—Anaktuvuk Pass, Wainwright, Kivalina, and Noatak; three-cousin systems with affinal incorporating structure—Kobuk and Selawik; all four structural principles used to some extent—Point Hope and Barrow.

10 Most data were recorded as "his or her kin" and are given in that form. However, because of dialectual phonemic differences with respect to *g*, *k*, *ŋ*, and *γ*, some of the forms given would be the forms for "my kin" in some localities. In a number of other respects, too, the linguistic data are incomplete and inadequate. But fully inflected forms of some sort are preferable to stem morphemes because there are instances—more evident in field work than is apparent in this presentation—where the same root forms the basis of different status terminologies.

11 The terms "primary," "secondary," etc., refer to categories of people separated by colons in the presentation. These categories do not necessarily represent any overtly-made Eskimo distinctions.

GRANDFATHER ataataŋa	FF, MF: spouse's FF & MF: male siblings and cousins of primary ataataŋa, spouses of female siblings and cousins of primary ataataŋa. (Male siblings of secondary ataataŋa are generally classed as uncles, female siblings of secondary ataataŋa as aunts, and their spouses would then also be aunts or uncles.)
GRANDMOTHER aanaŋa	Analogous to grandfather in all respects.
FATHER aapaŋa	Biological father: social father: mother's co-husband (as in "wife exchange" relationship). The feeling is that the term should not be extended beyond the biological father, and that social fathers should be designated as such in some way, usually by the father term plus a suffix, the most frequent of which is -saq, meaning "material for." However, when a man functionally replaces a biological father, the step-designation[12] tends to be dropped as he assumes the function of father.[13]
MOTHER aakaŋa	Analogous to father in all respects. All biological fathers and mothers remain so for life, regardless of divorce and remarriage, or adoption.
UNCLE aqaga (akaakaŋa)	Brother or male first cousin of either parent: any other male cousin of either parent, male siblings or first cousins of spouse's parents, husbands of both parents' sisters or first cousins: husbands of all female cousins of either parent, husbands of all sisters and female cousins of either parent-in-law. The first group in the tertiary class is likely to become niŋauŋa, the second may be referred to as one of a class of vague affinals. (See note under uncle, affinal excluding structures, below.)

12 For brevity's sake, the term "quasi-" will be used frequently throughout the paper to designate various step, half, adoptive, and "wife exchange" derived relationships.

13 At Point Hope one frequently hears the father-in-law referred to as "father" or "quasi-father." This is a minor and local variation, but it is not merely a colloquialism; it is a logical extension of the affinal incorporating principle. Some people at Point Hope maintain that this ought to be the correct usage. They base their contention on the explicit principle (current throughout the range of the affinal incorporating structure), "Husband and wife are as one and therefore, what applies to the one applies to the other."

AUNT
atcaŋa

Analogous to uncle in all respects. (At Barrow affinal aunts and uncle may be assigned quasi-aunt and quasi-uncle terms, see affinal excluding structures.)[14]

SIBLING
aniaqataa

Sibling: adopted, step, or half sibling. Role-acting is the determinant of status and terminology for a quasi-sibling (as outlined for father status). A person given out for adoption remains a sibling to his biological siblings. This term cannot otherwise be extended outside the nuclear family.

QATAŊUTIGAA
qataŋutigaa

Any person who is the biological child of someone with whom either of Ego's parents have had a sexual relationship that is socially defined as an approved form, i.e. marriage or its socially approved functional equivalent. Primarily and most often this is "wife exchange," but divorce and subsequent remarriage can be used to set up qataŋutigaa relationships. A qataŋutigaa is actually a sibling outside the family of procreation. The qataŋutigaa bond is, ideally, a stronger tie than that of regular siblingship. Descendants of a qataŋutigaa are placed in the same status as descendants of siblings. Premarital and disapproved forms of sex relations do not leave these ties.

ELDER BROTHER
aapiaŋa
(aniŋaŋa)

Brother or male first cousin several years older than Ego: any older brother or older male cousin. The term is clearly cognate with father, and it entails a father-like role of nurturance and discipline, especially when the father is absent. Within the family, role performance is required of Ego by the parents and other elders.[15] But in adulthood the relationship is optative. Childhood nurturance-dependence relations may then be dropped, and others may be set up.

ELDER SISTER
aakitciaŋa
(aatauzaŋa)

Analogous to aapiaŋa. Etymologically this is "minor mother," and the role can best be described by just that term. Many girls spend a great deal of their time taking care of their

14 Point Hope, Barrow, and Anaktuvuk Pass display certain affinal excluding tendencies that are not recorded here. This is just another way of saying that the affinal excluding principle is known but infrequently used beyond the areas for which data are being presented.

15 "You, take care of your younger sibling, and you, mind your elder brother while I'm gone." In the minds of some people only the oldest brother can occupy this status.

"juniors." As an optative relationship between two women this is a very strong one.

JUNIOR SIBLING
nukatciaŋa
nukaalua
nukaa

Sibling or first cousin who is several years younger: any younger sibling or cousin. This is the reciprocal of both elder statuses. Since the role is dependence and nurturance, it requires no sex differentiation of status.[16]

ELDER SIBLING
aŋajua

Older sibling, older male sibling, oldest sibling. A vague status that contrasts with nukatciaŋa. The statuses elder *sister* and *brother* carry the important roles. There are also vague statuses for *the* oldest and *the* youngest.

AŋUTNUNRA and NAIJAA

Not a functional status in most affinal incorporating communities. (See under affinal excluding presentation below.)

PATRILATERAL PARALLEL COUSIN
aŋutiqataa

Father's brother's child: father's male first cousin's or male qataŋutigaa's child: child of any male cousin of father. This and the two statuses that follow are actually siblingship extended outside the nuclear family. (See further remarks under affinal excluding structures below.)

MATRILATERAL PARALLEL COUSIN
arnaqataa

Mother's sister's child: mother's female first cousin's or female qatuŋuatagaa's child: child of any female cousin of mother. Etymologically, this is "having female in common."

CROSS-COUSIN
illuŋa

Mother's brother's child, father's sister's child: child of parent's opposite sexed first cousin or qataŋutigaa: child of any opposite sexed cousin of either parent. This is a status that (like the two above) is not found in the two-cousin systems. The morpheme applied, however, is found. It is the same stem that is used for the concept of relatedness or closeness generally (from a general stem for "within," "entwined," "entangled"), and it will generally be understood with the meaning "his relative." (See under female cousin below.)

16 But at Point Hope and Barrow nukaalua is reserved for "same sexed junior sibling"; aqqalua, then, defines "junior male sibling of a female," and naijaa signifies "junior female sibling of a male." And by extension, naijaa signifies, vaguely, any female consanguineal of Ego's generation (see affinal excluding structure usage of naijaa below, and three-cousin structure treatment of siblings, pp. 112-113.

MALE COUSIN
arnaqataa

Male child of parent's siblings or qataŋutigaa: any male cousin. This term is often used as a generic for cousin. It should not be confused with the arnaqataa status of the three-cousin systems. The three-cousin systems do not have this form or the one that follows.

FEMALE COUSIN
annjaŋa

Analogous to male cousin. When the two people involved are of opposite sex both terms may be used, and there appears to be some uncertainty as to what the relationship should then ideally be. Kivalina has a cross-sexed cousin status for which the (otherwise) three-cousin term, illuŋa, is used.

SON
irniŋa
(qituŋna)

Biological son: stepson, adopted son: co-spouse's child. A stepson who functions as a son is usually called son. An adopted child is tiuxaŋa if adopted very young and integrated into the family. If adopted later in life and not well integrated, then he is aglisaŋa ('the one he raised'). The former usually becomes irniŋa, the latter remains aglisaŋa. Either the stepson or the son designation may be applied to the male child of a person with whom one has had an approved form of sexual relation, but it is not usually conceived of as the same status as the primary designation of irniŋa. The descendants of the quasi-sons, however, operate as if the status had been of the primary sort. Informants who prefer the son term for a quasi-son state that he is like a real son. Others claim that he must remain a stepson, and that he ought to be bashful in the presence of his mother's co-husband.

DAUGHTER
pania

Analogous to son. As with son, a biological daughter given out for adoption remains a daughter to her biological parents.

SIBLING'S CHILD
ujurua
(kaŋiiaga)

Sibling's child, first cousin's child: child of any cousin: nephew's wife (but usually not niece's husband). Point Hope breaks up this status according to sex of reciprocal, ujurua for nepotic of a male, and nauraalua for nepotic of a woman.

GRANDCHILD
tutikciaŋa

Biological grandchild, grandchild of any sibling, first cousin, or qataŋutigaa: child of any quasi-child: spouse of any primary tutikciaŋa: spouse of any secondary tutikciaŋa.

GREATGRANDCHILD
amaulua
(amauŋa)

Child of any tutikciaŋa, spouse of any g-g-child. This term is, of course, a reciprocal of g-g-parent, and, just as its use for g-g-parent signifies a vague category of ancestors, so the downward extension subsumes an indefinite congeries of descendants and social descendants.

FATHER-IN-LAW
aapazuaŋa
(aapalua)

Spouse's father: spouse's father's brother. Secondary aapazuaŋa are not frequent. They tend to be classed as uncles. The sakgi-morpheme of the affinal excluding terminology is also known, but it signifies a very weak status that has practically no role, i.e. spouse's adult, or older, consanguineals lying outside the range of interaction.

MOTHER-IN-LAW
aakazugaŋa
(aakalua)

Analogous to father-in-law. The terms for both these statuses are built on the corresponding parent stem, and the feeling is that, since a conjugal pair is as one, the relationship between children-in-law and parents-in-law should have a child-parent quality. (See footnote 12, but, also, ukuaŋa and niŋauŋa, below.)

HUSBAND
uiŋa

The male with whom Ego is living in the regular form of marriage: a male who, because of a role previously played, ought to be occupying the status of husband. In cases where a man has lived with a woman for a period of time and has discharged the function of husband, and has then left, he may for some time thereafter be referred to as the husband of the woman, especially by her close relatives. During that time, too, they will act toward him as though they expected him to resume the role. Beyond this there is no extension of the term or the status. Polyandry as an approved, structured, kinship form was not found.

WIFE
nuliaŋa

Two women can concomitantly occupy this status. Otherwise there is no extension. An ex-wife (see husband, above), so far as the ex-husband and his kin are concerned, ceases to be a wife as soon as he discontinues playing the role, unless the man is avowedly only temporarily separated from her. In cases of polygyny, both wives were referred to by the term nuliaŋa, but the first could be distinguished by employing the argumentative suffix, -pak.

"BORROWED" HUSBAND
uiŋuzaŋa

Co-husband by virtue of "wife exchange." Ideally, "wife exchange" is a four-status structure, and as such it is as much "husband exchange" as "wife exchange." It is actually supplemental or quasi-marriage, and parallels the regular form of marriage in many respects. The statuses and roles at Ego's level are different, but in descending generations the effects of supplemental marriage are the same as those of regular marriage. Ego's children in the other family, i.e. the children in co-spouse's family of procreation, will produce grandchildren for Ego, and first cousins to Ego's lineal grandchildren.

"BORROWED" WIFE
nuliuzaŋa

Analogous to co-husband. The terms for both these statuses (the diminutives of the corresponding spouse terms) are invariant over the whole Inupiaq-speaking region of Alaska. Other statuses involved in quasi-marriage are not nearly as well defined, and their terminology is correspondingly unstable. (See the spouse's co-spouse statuses below, and remarks on quasi-parent and quasi-child relationships.)

SENIOR CO-AFFINAL
aŋajunrua

Spouse's older sibling's spouse: spouse's older first cousin's spouse: spouse's older cousin's spouse.

JUNIOR CO-AFFINAL
nukaunrua

Reciprocal of aŋajunrua. Sex does not enter, nor does the absolute age of Ego and reciprocal.

WIFE'S CO-HUSBAND
nuliaqataa
aŋutauqataa
aipaŋa

The other male in the spouse exchange relationship; any other man who has had marital or quasi-marital relations with a woman with whom Ego also has or had such relations. The great variance of terminology no doubt reflects ambiguity of status and role.

HUSBAND'S CO-WIFE
ukiqataa
aipaŋa

Analogous to wife's co-husband. aipaŋa in non-kinship situations, means simply "its other one," "its mate." All Inupiaq-speaking people also employ it regularly to signify "spouse."

FEMALE AFFINAL
ukuaŋa

Wife of sibling, first cousin, or son: wife of any cousin: wife of nephew, grandson, or great-grandson: parent's brother's wife. In accordance with the "married people are like the same person" feeling, the third and fourth options are felt to be much less proper than equation with homologous

consanguineals, ukuaŋa of the primary sort have the role of service, respect, coöperation, and some degree of submission.

MALE AFFINAL
niŋauŋa — Analogous to ukuaŋa, except that there is less tendency to equate with homologous consanguineals. Even at Point Hope (see footnote 12) male child-in-law is never merged with child.

The statuses of the *affinal excluding structure* are:

GREAT-GRANDPARENT
amauua
(amaulua) — Biological g-g-parents: siblings of biological g-g-parents: cousins of biological g-g-parents, spouse of any amauua.

GRANDFATHER
avaaŋa
ataataŋa — Biological grandparent: biological grandparent's siblings and their spouses: quasi-parent's parent: cousin and cousin's spouse of any primary avaaŋa.

GRANDMOTHER
aanaŋa — Analogous to grandfather in all respects.

FATHER
aapaŋa
aŋutaa — Same as for affinal incorporating structure.

MOTHER
aakaŋa — Same as for affinal incorporating structure.

UNCLE
aŋaaŋa
akaakaŋa — Brother or male first cousin of either parent: any male cousin of either parent. The weight of sentiment is that husbands of parents' sisters must not be equated with homologous consanguineals: they can be designated by the uncle term with a quasi-suffix, or be classified as niŋauŋa, or (as at King Island) have no status at all. In the Bering Straits aŋaaŋa is reserved for FB, and akaakaŋa for MB. (Some people at Barrow also make this distinction.) (The Wales and Diomede terms for affinal uncle are identical with stepfather.)

AUNT
atcaŋa
aijaŋa — Analogous to uncle. At King Island parent's brother's wife, unlike affinal uncle, does have a status, that of quasi-aunt. Outside the Bering Straits, affinal aunt may have this consanguineal status term.

SIBLING aniaqataa	Same as for affinal incorporating structures. Alaskan Inupiaq has no way of designating brother of either-sexed sibling, or sister of either-sexed sibling. It makes do by circumlocution (c.f. elder brother and elder sister, and aŋutnunra-naijaa, below).
QATAŊUTIGAA qataŋutigaa	Same as for affinal incorporating structures.
ELDER BROTHER aŋauzaŋa aapiaŋa	Same as for affinal incorporating structures, except that there is a tendency to keep this more distinct from oldest brother.
ELDER SISTER aakauzaŋa aakitciaŋa	Same as affinal incorporating structure. Everywhere this is always a clearer status than "minor father." Except where an adolescent boy replaces his father as provider, elder brother often has less functional meaning. An older sister's constant discharge of the role of auxiliary mother is, however, usually of great importance.
JUNIOR SIBLING nukaa nukatciaŋa	Same as affinal incorporating structure. Those systems that use the three-cousin structure tend to keep *the* youngest sibling distinct from *a* younger sibling.
ELDER SIBLING aŋajua	Older sibling or first cousin: older cousin. A more definite status than it is for affinal incorporating structures, less often confused with older male, or oldest sibling. The oldest sibling tends not to be a status with the affinal excluding structures.
BROTHER OF A FEMALE aŋutnunra	Male sibling or first cousin: any male cousin. aŋutnunra and naiija operate as sex identifiers and relatedness emphasizers. Manner of connection, i.e. nuclear family, supplemental, or particular type of extended siblingship is given by the aniaqataa, qataŋutigaa, arnaqataa, aŋutaqataa, and illuŋa terminology. Across this, and not conflicting with it, may be applied the elder sister or brother versus younger sibling relationship. Even after this is done, the sex of Ego remains unidentified; aŋutnunra and naijaa clarify this last ambiguity. All affinal excluding structures have aŋutnunra as a functional structure. At all places where the affinal incorporating principle is used and the three-cousin way of arranging con-

	sanguineals is known there also is a knowledge of the aŋutnunra-naiijaa distinction, but of these communities, only Kobuk and Selawik make any appreciable use of this status niche.
SISTER OF A MALE naijaa	Reciprocal of aŋutnunra. Most Inupiaq-speaking people will recognize naijaq as a generic term having the meaning of female consanguineal at Ego's generational level, especially if younger. Deering and Buckland, both two-cousin systems, use naijaa to signify cross-sexed cousin (see Kivalina usage of illuŋa, above). Selawik and Kobuk have this status, but it is weakly developed and termed arnaunra.
PATRILATERAL PARALLEL COUSIN aŋutiqataa	Same as outlined for affinal incorporating structures. This and the two statuses that follow are functional wherever the three-cousin frame of reference operates, regardless of the type of affinal structure.
MATRILATERAL PARALLEL COUSIN arnaqataa	Same as outlined for affinal incorporating structure. As with aŋutaqataa and illuŋa, the terminology is invariant for all three-cousin systems.
CROSS-COUSIN illuŋa	Same as outlined for affinal incorporating structure. The ascribed status "extended siblingship through opposite sexed parents" forms the structure upon which the optative status "joking cousin" may be built. Both are given the same term. A cross-cousin has the right to indulge in ribaldry, but a functional joking cousin relationship will not come into being unless there is reciprocation.
MALE COUSIN	Not found in any affinal excluding system.
FEMALE COUSIN	Not found in any affinal excluding system.
SON qituŋna irniŋa	Same as for affinal incorporating structure. In three-cousin systems both terms are usually found concomitantly. One or the other of them will then tend to be a generic for child, the other restricted to son.
DAUGHTER pania	Same as for affinal incorporating structure. pania is never used as a generic for child.

SIBLING'S CHILD
ujurua
(kaŋiiaga)

Sibling's child: first cousin's child: child of any cousin. King Island, Diomede, and Wales use the second term for the child of a like-sexed sibling or cousin, and the first for the child of an opposite-sexed sibling. Elsewhere (except at Point Hope), the terms are used interchangeably.

GRANDCHILD
tutkaa
tutikciaŋa

Biological grandchild: child of quasi-child, nephew, or niece: grandchild of any cousin. Though there may be ambiguity and ambivalence toward a quasi-child via spouse exchange, this is completely overridden with respect to the next generation. A grandchild via spouse exchange has almost the same status as a biological grandchild.

GREAT-GRANDCHILD
illuliuqataa
amaulua

Child of any tutkaa. Two-cousin systems do not employ the first term. Where the second term is used, it is always a reciprocal term, whereas the first term is rarely used reciprocally. This is a status that looms large in the Eskimo value system; it is felt that it should be reserved for lineal social or biological descendants, but it is also generally known that lineal g-g-children seldom occur, and that most g-g-children are classificatory.

FATHER-IN-LAW
MOTHER-IN-LAW

No specific terminology applies exclusively to these two people. They are, however, singled out from the rest of spouse's ascending kin by role discharge toward them. Toward both of them there is name taboo, and toward them, especially toward the one of the same sex as Ego, there is the role of service. The fact that other individuals of spouse's consanguineal kin group are called by their personal names or by other status terms, and only parents-in-law are referred to exclusively as sakgiia, effectively singles them out.

ASCENDING IN-LAW
sakgiia

Spouse's parent: spouse's consanguineal aunt, uncle, grandparent, collateral grandparent, and g-g-parent: spouse's older sibling or cousin. Designations of the third sort are not frequent, and are felt to be somewhat incorrect. At Ego's level, for affinal as for consanguineal relations, it is felt that there should be some generational mutuality. (See senior and junior co-affinal, below.)

HUSBAND uiŋa	Same as affinal incorporating structure.
WIFE nuliaŋa	Same as affinal incorporating structure.
"BORROWED" HUSBAND uiŋuzaŋa	Same as affinal incorporating structure.
"BORROWED" WIFE nuliuzaŋa	Same as affinal incorporating structure.
SENIOR CO-AFFINAL aŋajunrua (and) JUNIOR CO-AFFINAL nukaunrua	These are the same as for affinal incorporating structures, for those systems where the status occurs. The single Espenberg informant neither gave nor recognized the term. King Island and Diomede do not have it; they break co-affinal statuses up into more specific units, and according to different combinations of classifying criteria. These are: *ukiqataa,* husband's brother's wife (this, too, is "having husband in common," but it is not to be confused with the more accepted usage of the morpheme to signify husband's co-wife); *nuliaqataa,* wife's sister's huband; *sakgiizaŋa,* spouse's sibling or cousin.[17]
WIFE'S CO-HUSBAND nuliaqataa aipaluaŋa	Same as for affinal incorporating structure. The second term is used at King Island and Diomede for the combined status, spouse's co-spouse. Elsewhere the first is the more common term. (See co-affinal terminology.)
HUSBAND'S CO-WIFE uikqataa aipaluaŋa	Same as for affinal incorporating structure. At King Island and Diomede the use of the same term for co-spouses of both sorts is explained by the statement, "Those two women and those two men are (or ought to be) partners to each other. They belong together."

17 Some of the Diomede people try to make further terminological distinctions on the basis of the sex of Ego and reciprocal.

FEMALE AFFINAL
ukuaŋa

Son's wife, brother's wife, first cousin's wife, wife of any cousin, nephew, grandson, or g-g-son: parent's brother's wife. The last-named choice is not often made. The more proper classification is felt to be that of quasi-aunt.

MALE AFFINAL
niŋauŋa

Daughter's husband, brother's husband: husband of any grandchild, niece, cousin, or g-g-child: parent's sister's husband. There is more tendency to keep the male affinal separate from the kin group, and parent's sister's husband is more apt to be classed as affinal than the parent's brother's wife.

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